



QE II National Trust
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Focus on Mid to South Canterbury and West Coast | Historic Sites | Fencing Maintenance

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Helping you protect the special nature of your land



QE II National Trust
For open space in New Zealand
Nga Kairauhi Papa

QEII Trust helps landowners to protect significant natural and cultural features on their land. Features include:

- Landscapes
- Wetlands
- Cultural sites
- Coastlines
- Archaeological sites
- Forests and bush remnants
- Tussock grasslands
- Streams
- Geological features
- Wildlife habitats

Landowners throughout New Zealand voluntarily protect over 85,000 hectares of land through QEII registered covenants (or protection agreements). QEII Trust also helps by contributing funds for covenant projects and advising landowners on managing their covenants.

QEII Trust also owns 27 properties, which collectively protect 1,500 hectares of significant habitat. Most of these have been gifted to the Trust. Effective stewardship of these properties is greatly assisted by local communities and management committees.



COVER PHOTO

Richon Wetland, a sedgeland with *Carex secta* and the nationally threatened *Carex tenuiculmis* and *Carmichaelia torulosa*, protected by Ian and Robert Stokes in 2006 with a 6ha covenant on their 2,500ha sheep, beef and deer farm in Lees Valley, Waimakariri. Photo: Brian Molloy

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The Queen Elizabeth II National Trust (QEII Trust) is a statutory organisation independent from Government and managed by a Board of Directors.

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Southland peat bog protected in perpetuity

Twenty kilometres west of Gore, **Jim, Rosalie and Anthony Copland** protected three blocks of lowland forest, shrubland and peatland on their 2,100ha sheep and beef farm with a 51ha QEII open space covenant in February 2007.

Along with covenantors from throughout the region, the QEII directors visited the covenant in November 2007, celebrating the protection of over 5,000ha in Southland with QEII covenants in perpetuity.

Right: On a walk through the covenant, Jim Copland discussed the high biodiversity and conservation values of the protected red tussock peatland with the QEII directors. Peat bogs were always uncommon in the Hokonui Ecological District. Of those remaining, few are formally protected.

From left: Yvonne Sharp, Jo Ritchie, Bernard Card, James Hunter, Jim Copland, Edward Ellison and Sir Brian Lochore.

Below: Southland covenantors enjoying a walk in the covenant which is integrated with the productive sheep and beef farm, producing an attractive rural landscape.



Photo: Supplied by Jim Copland



Photo: Margaret McKee

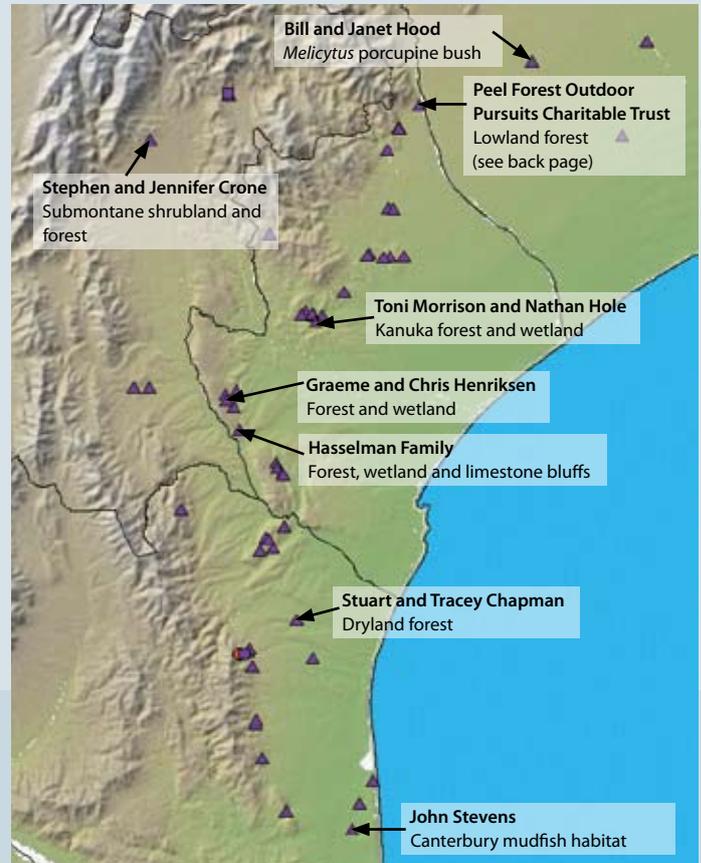
Mid to South Canterbury

Extending from Rakaia down through the Canterbury Plains to Waimate, this region is bounded by the foothills of the Southern Alps and the east coast. Known for hot summers, dry north-west winds and cold winters, the annual rainfall is one of New Zealand's lowest.

The area was once covered with matai and totara forest, trees such as broadleaf, ribbonwood and kowhai, and kahikatea stands and swamps. By the mid-19th century the land was a mosaic of flax, fern, scrub and tussock. This was soon cleared for farming and now there are only small remnants of native vegetation remaining.

Covenants 31 January 2008	No.	Hectares
Registered	59	1,346
Approved	1	45
Total	60	1,391

Key
 ▲ Registered covenants
 ● Approved covenants
 — District Council boundary



Scientifically valuable remnant protected

At Bealach, their sheep farm on the Mid-Canterbury Plains south-east of Mayfield, **Bill and Janet Hood** protected 0.9ha of lowland *Melicytus* porcupine bush shrubland with a QEII covenant in October 2004.

This remnant is representative of the riparian dryland vegetation that remains in the Low Plains Ecological District. The *Melicytus* is not a rare species, but following land clearances for agriculture it occurs only sporadically in the low plains, rather than in groups as in this covenant.

With an interest in the environment for over 30 years, Bill was a founding member of the Ashburton Branch of the Royal Forest and Bird Protection Society. 'There are very few covenants on the plains and we have protected this area to keep it for the future,' he says.

The *Melicytus* plants form tightly divaricating bushes up to one metre tall. Smaller plants encircle larger ones, suggesting this species may be rhizomatous. The plants have very thin sharp-pointed branches. 'These characteristics suggest this plant, although resembling *Melicytus alpinus*, may be a different entity,' says Brian Molloy, QEII High Country Rep. 'Cuttings are now being propagated at Landcare Research so we can report on the taxonomic status in due course.'

Above right: *Melicytus* porcupine bush is now a rare sight on the Mid-Canterbury Plains. This remnant is protected in perpetuity with a QEII covenant by Bill and Janet Hood.

Bottom left: Bill Hood with the *Melicytus* species.

Bottom right: Skinks assist in the propagation of *Melicytus* by scattering seeds after eating the berries. Constructing small stone piles to provide refuges and corridors encourages skinks in this dryland habitat.



Photos: Miles Giller

Limestone landscape protected

The **Hasselman** family property, Quamby, is a 240ha sheep, beef and deer farm at the southeast end of the Brothers Range near Cave. The family protected two areas at the top and bottom of a linked wetland system running beneath an impressive limestone scarp with an 11 ha open space covenant in October 2007.

Charles and Nan Hasselman have retired and the farm is leased to son-in-law Andrew Steven. 'We all have green interests,' he says. 'It was a good opportunity to protect the bush gully and wetland and to work with QEII on where to put the fences. We also got funding from Environment Canterbury for the wetland.'

'It was a simple process to protect the areas with QEII and it will be interesting now to see the regeneration.'

Top: *Carex secta* dominates the wetland, with patches of dense raupo and scattered *Coprosma propinqua*. The crack willow is being controlled by poisoning.

Left: Charles and Nan Hasselman.

Right: Indigenous shrubs, herbs and ferns on the steep limestone bluffs along Tengawai Flat Creek include toatoa, *Asplenium lyallii*, *Senecio glaucophyllus* and *Einadia allanii*. Some species have yet to be identified.



Photos: Kathryn Hill



Rare dryland forest remnant saved

In South Canterbury, very few podocarp remnants remain close to the coast. On **Stuart and Tracey Chapman's** 350ha sheep and deer farm 20km south-west of Timaru, a very steep gully carves through loess and glacial gravels.

The dryland podocarp-hardwood forest in the gully is probably one of the least modified remnants of its type remaining in the Waimate Ecological District. The unusually steep topography has saved this forest from clearance over the last 150 years. The canopy includes kohuhu, five-finger, mahoe, fuchsia and emergent totara and kowhai.

The forest was protected with a 6ha QEII covenant in February 2006. 'The totara at the bottom of the gully was never cleared,' says Stuart. 'My parents moved here in 1974 and we took over the farm in 1993. Much of the gully was fenced which stopped stock getting into the area. Now that the fencing is complete with assistance from QEII, the forest will continue to thrive.'

Above: The rare remnant podocarp-hardwood forest in the incised gully with the glacial gravels exposed on the southern side.

Far left: Strong understorey growth and groundcover along the stream at the bottom of the gully, where stock have never had access.

Left: Stuart Chapman beside the head of the steep gully protected by an open space covenant.



Photos: Miles Giller

Sharing the land

On Hillcrest, their 640ha sheep and cattle farm 18km north of Fairlie, **Stephen and Jennifer Crone** protected 8ha of submontane shrubland, scrub and forest in November 2005.

The forest reflects the nature of the former vegetation cover with mountain ribbonwood *Hoheria lyalli* and broadleaf species dominating. The coprosma and matagouri scrub and shrubland are consequences of early farmers burning and grazing the original vegetation.

‘We heard the bellbirds and warblers in the bush and decided to protect the area for long-term conservation,’ says Stephen. ‘There’s lots of regrowth already, especially coprosma.’

The Crones run a farm-stay and in conjunction with the Fairlie Promotion Committee they have developed an 8km public walkway called Hillcrest Track that passes the covenant on its way through the hills. ‘There are great views of South Canterbury from the track,’ says Stephen.

‘We look at the big picture with the farm,’ he adds. ‘Our primary goal is making a living by farming but we share the land we occupy with animals and plants. QEII is part of that picture.’

‘The public also can share the scenery and the bush. There is always access for those who ask us.’



Photo: Miles Gillier

Above left: Stephen Crone beside the protected *Hoheria* forest.



Photo: Miles Gillier

Above right: An unnamed *Melicytus* species (porcupine shrub) is found in the dry shrubland protected by the QEII covenant.

Right: The Crones’ 8ha covenant stands out in the centre of this gully on their farm in the Fairlie Basin. For details about the walking track which passes the covenant or the farm-stay, phone 03 685 4800 or email sp.jn.crone@slingshot.co.nz



Photo: Kathryn Hill

Restoring Canterbury mudfish habitat

John Stevens purchased a farmlet at Willowbridge, 9km south-east of Waimate in 2000. Surrounded by cropping and dairy farms, there was no native vegetation on the property, just willow, broom and gorse. ‘It took 12 months to clean it up,’ says John.

Since John has retired, he and Ina Turner have been revegetating the area with locally sourced plants including *Carex* species, flaxes, rushes, cabbage trees and kowhai.

‘We’ve also planted totara, matai and kahikatea, the three main canopy species of the area,’ says John. He protected 3ha of the revegetated area with a QEII covenant in May 2007.

‘There is a good healthy population of Canterbury mudfish in the stream,’ he says. ‘Mudfish are reliant on clean water and don’t do well in dirty run-off. Planting native vegetation helps to protect the mudfish.’



Photo: John Stevens

John Stevens and Ina Turner have been restoring the natural character of this land since 2000. Buchanans Creek, a Canterbury mudfish habitat, runs through the covenant.

Preserving lowland water catchments

On their 593ha sheep and beef farm in Totara Valley west of Pleasant Point, **Graeme and Chris Henriksen** have protected 91ha of forest remnants and wetland with four QEII covenants.

Deeply incised gullies are a feature of the rolling-to-steep foothills farm. In these gullies, some native species survived logging in the early 1900s and burning that occurred until 1939. Graeme and Chris have left these gullies to regenerate.

Fencing the thin, long gullies has been a gradual process, with their first covenant being registered in 1987. 'QEII assistance with half the covenant fencing costs and contributions from Timaru District Council and the Biodiversity Condition Fund have been a big help,' says Graeme.

The Henriksens' third covenant was the 1,500th registered open space covenant, celebrated with a QEII gathering at their farm in March 2002. Their latest covenant,

13ha of forest wetland, was registered in October 2005. A spring in the bush provides water for the farm, being gravity-fed to a dam below. Environment Canterbury provided funding for planting the wetland.

'The bush in the covenants was badly damaged in the big snow of June 2006,' says Graeme. 'The snow broke the trees and flattened them. This was a natural occurrence and we are letting things take their course for recovery.'

'We plan to covenant more bush in the future as funds allow for fencing.'



Photo: Kathryn Hill

Left: The water catchment protected with the Henriksens' latest open space covenant includes a dam put in to store water for stock.

Below left: Graeme and Chris Henriksen with Sir Paul Reeves, QEII Chairperson 2000-2003, celebrating the 1,500th registered QEII covenant in March 2002. There are now nearly 2,800 registered covenants.

Below middle: Mahoe-broadleaf-kowhai-matipo forest in the Henriksens' third covenant.

Below right: *Teucrium parvifolium*, a highly palatable small-leaved shrub in gradual decline, protected from browsing in the first covenant registered in 1987.



Photo: Timaru Herald. Published in 'Open Space' Issue 54.



Photo: Kathryn Hill



Photo: Gillian Giller

Canterbury mudfish *Neochanna burrowsius*



Photo: G. A. Eldon

One of five New Zealand mudfish species, the Canterbury mudfish (kowaro) is cigar-shaped with eel-like fins and no scales. It is light brown with blotchy spots and gold flecks.

The Canterbury mudfish is nationally endangered and is now found only in a small number of Canterbury Plains waterways between the Ashley River to the north and Waitaki River to the south.

Mudfish characteristics indicate they can adapt to seasonally stagnant habitats, which allows them to survive Canterbury droughts.

The loss of its original habitat, with the majority of the Plains now being farmland, has been the primary cause of population decline. QEII covenants help to ensure the survival of this native freshwater fish. For more information, visit www.mudfish.org.nz

Family connection at Kakahu Bush

Toni Morrison was brought up near Kakahu Bush, north-west of Temuka. 'My grandfather, Jack Morrison, had conservation values and an historical interest in protection,' she says.

Ian Morrison, Toni's uncle, initiated QEII open space covenants at Kakahu Bush which protect podocarp-hardwood forest, regenerating kanuka, and limestone outcrops containing archaeological and fossil sites.

Toni's parents, John and Ann Morrison, have a 6ha forest remnant covenant on their farm. **Toni Morrison and Nathan Hole's** 19ha covenant of regenerating kanuka forest and wetland was registered in November last year.

'We were keen to find some land with a wetland,' says Toni. 'There is an open-cast clay mine in Kakahu and the company sold some land to us. We have covenanted the wetland and kanuka.'

Toni and Nathan live in Greymouth but get back to their covenant every few months. 'We have some willow control to do in the future with funding from QEII.'

'Wetlands are rare ecosystems in Canterbury now and Kakahu is a special area. We love the plants, sedges and birdlife and eventually we will live there.'

Top: Flax, sedges and raupo in Toni Morrison and Nathan Hole's wetland covenant.

Right: Nathan Hole admires the strong regrowth of understorey species beneath kanuka.

Far right: The protected wetland contains several locally rare species including sphagnum moss (pictured), *Drosera binata* (see page 31), *Baumea rubiginosa*, and *Gunnera* species.

Below: Looking north over the Kakahu Bush covenants.



Photos: Miles Giller

West Coast

With a windswept coastline of 600 kilometres, the West Coast landscape rises from alluvial plains and glacial terraces to rolling hill country leading up to the Southern Alps. With mild temperatures and a high rainfall, it is a region of forests, wetlands, lakes and rivers.

The Department of Conservation manages more than 1.9 million hectares; about a quarter of New Zealand's protected public land. Forestry, mining and fire have made impacts on the native vegetation outside the conservation estate. Dairy farming is now intensifying as large excavators enable both the clearing and shaping of the land.

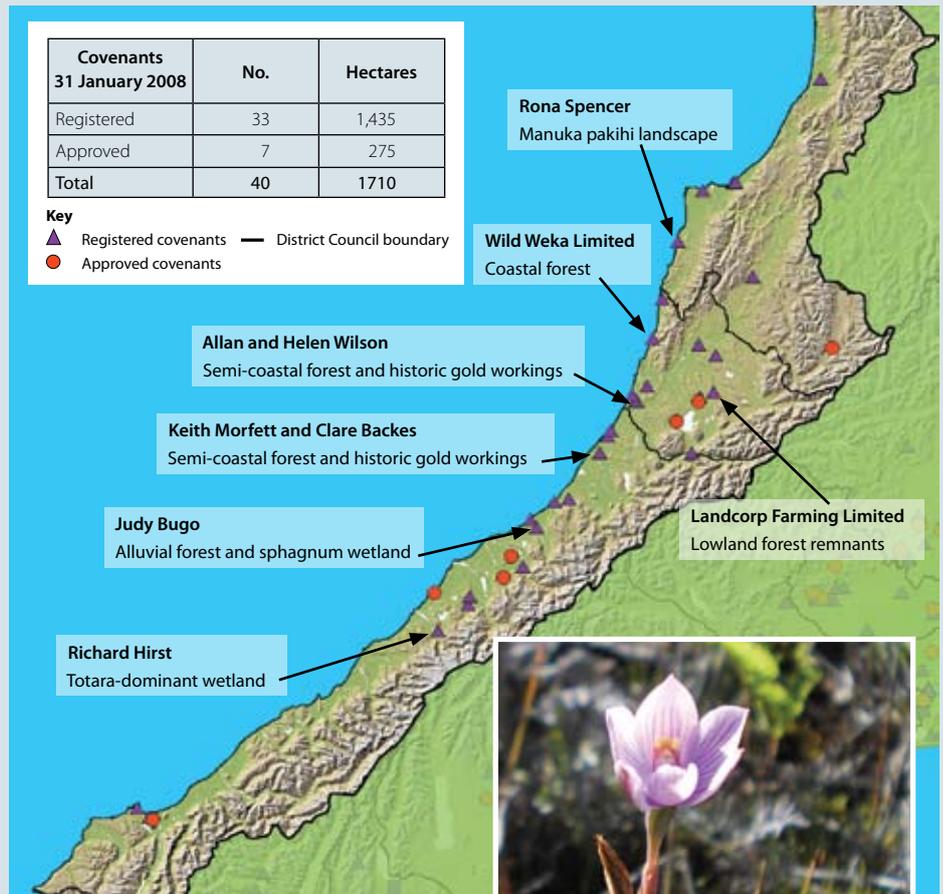
Pakihi biodiversity protected

Manuka pakihi and rimu and beech forest near Charleston were protected by **Rona Spencer** with a 7ha QEII covenant in 2005. Pakihi is a distinctive landscape covered with sedges, rushes, ferns and shrubs common on West Coast glacial or fluvial terraces or plains. A pan, usually of iron sand, forms a water-impervious layer under the soil. The resulting wet, gley, podzolised soils are very infertile.

Manuka pakihi in Charleston once had forest margins. These were logged and the land mined for gold in the late 19th century, and then the area was repeatedly burned in failed farming attempts. The covenant vegetation is now recovering having been almost untouched for 18 years.

At the edge of undisturbed pakihi, yellow silver pine *Lepidothamnus intermedius* is the predominant tree. Containing an aromatic oil, it is a durable wood and was heavily logged for railway sleepers, fence posts and firewood.

The pakihi has a unique beauty and unusual biodiversity with plants such as tangle fern *Gleichenia dicarpa*, pakihi sedge *Baumea teretifolia*, wire rush *Empodisma minus*, square sedge *Lepidosperma austral*, *Gahnia rigida*, *Epacris pauciflora*, *Dracophyllum longifolium*



and the insectivorous *Drosera* species. Orchids include *Thelymitra xdentata*, *Stegostyla lyallii* and *Aporostylis bifolia*.

Pakihi is becoming rare as it now being developed for farming by 'flipping'. Diggers flip the pakihi soils to a depth of up to three metres, the iron pan is broken up and the free draining sands below are brought to the top, improving the drainage for pasture.



Above right: *Thelymitra xdentata* (Hybrid sun orchid).

Below: Seedlings of beech, rimu, lancewood, rata, totara and miro are now appearing amongst the manuka. With this natural regeneration, the pakihi will once again become forest.



Kotuku dairy farm management

On Souters Farm, a dairy farm recently developed by **Landcorp Farming Limited** at Kotuku, native forest remnants and streams were left undisturbed when major earthworks were undertaken to establish new pasture, fences and buildings.

The forest remnants and streams were protected with a 30ha QEII covenant in July last year. The forest canopy includes rimu, kahikatea and miro left by early loggers over 70 years ago. On the terrace edges, kamahi is dominant with a few larger rimu. One wetland is a small tarn in the glacial terraces. Another is in the upper reaches of Souter Creek, which flows into a significant protected wetland.

A small remnant of red beech adds to the beech migration interface which is a special phenomenon in the South Island. After Souters Farm, beech does not appear in the forest make-up again until 200km south at Paringa. Souters is right on the cusp of where beech is invading into the podocarp-hardwood dominant forest of the Westland Beech Gap.



Below left: Souters Farm complements other Landcorp Farming covenants at Kotuku; the 619ha Deep Creek covenant (featured in *Open Space*™ Issue 64, July 2005) and the approved Flat Creek covenant. The covenants are fine examples of landscape and biodiversity protection and responsible farm management.

Below right: Electric fences protect lowland forest remnants scattered throughout Souters Farm.

Inset: Now that grazing cattle are excluded from the remnants by fences, the groundcover and understorey are regenerating making an ideal habitat for many western weka *Gallirallus australis australis* (in serious decline).



Photos: Ian James, photo inset: Fernie McKenzie

Striking vista from the Paparoa coast road

Ten kilometres north of Runanga at Thirteen Mile Creek, a steep escarpment on the Paparoa Coast was protected with a 10ha QEII covenant by **Wild Weka Limited** in October last year.

Contiguous with the South Paparoa conservation area, the broadleaved shrubland forest consists of emergent rata over a canopy of mahoe, pigeonwood, *Griselinia littoralis*, kanono and mamaku. Hardy coastal vegetation including kiekie, kawakawa, rangiora and coprosma species makes up the understorey.

At the foot of the hillside, an old gold mining water race traverses almost the entire length of the covenant. Shafts and rock walls are further evidence of past mining.

The landowners say one of the main reasons they protected the hillside is to let the forest regenerate. The covenant will also provide an ideal habitat for western weka which have been seen in the covenant.



The Wild Weka covenant on the Paparoa coast road is a spectacular scenic feature now protected in perpetuity.



Photos: Mike Copeland

Regenerating alluvial forest and sphagnum wetland

Judy Bugo purchased her property overlooking Waitaha River specifically to let the vegetation regenerate.

Kahikatea forest grows on the wet alluvial soils along flax-lined black creeks. This was partially logged over 50 years ago but patches of primary forest remain. On the river side of the flats when the soil is better drained, alluvial kahikatea and *waihoensis* totara, a variety confined to the West Coast, dominate.

The land was grazed by cattle over the past century. 'One of the benefits of protecting the area with a covenant is that the wandering cattle have been excluded,' says Judy.

'Recently we also cut down blackwood eucalypts planted by a previous farmer and now have to control the willow.'



Top: Alluvial forest protected by Judy Bugo's QEII covenant. This forest type once covered much of the Waitaha River flats but now little remains.

Right: An intact sphagnum-fern fen bog wetland is also protected. This is quite a rare feature in South Westland as most similar sites have been overlain by river aggradations.

Left: Judy Bugo enjoys the forest and wetland she protected with a 77ha open space covenant in 2006.



Photos: Ian James

First QEII covenant at Franz Josef

Totara-dominant wetland is now rare in South Westland. On alluvial flats near the Waiho River, a remarkable survivor of this wetland type was protected by **Richard Hirst** with a 17ha open space covenant in 2006.

Of botanical interest is that both shrubby totara *Podocarpus acutifolius* and *Podocarpus totara* var. *waihoensis* are scattered through the

covenant. The *waihoensis* (of the Waiho Valley) totara is a local variety found on alluvial valley floors in central and South Westland.

Many wetlands on the Waiho floodplains have been drained for farming. Richard has owned the farm for 15 years and wanted to protect the wetland from drainage. 'It's lovely vegetation with rata and kamahi coming through now,' he says. 'It's a real haven for fernbirds.'



Photos: Ian James

Above left: The Southern Alps form a fine background to Richard Hirst's wetland covenant. The Franz Josef Glacier flows into the Waiho Valley.

Above right: The groundcover in the wetland is a complex mixture of rushes, sedges, sphagnum and ferns. Sphagnum has been harvested in the wetland for about 30 years on a five-yearly timetable. Only hand harvest methods on a sustainable basis are now permitted.

West Coast gold mining workings

Well preserved gold mining workings dating back to the 1860s are a notable feature of **Allan and Helen Wilson's** 1.5ha covenant at Welshmans near Rutherglen.

Thousands of gold miners sought their fortune during the main West Coast gold rush. At Welshmans, gold was found in relatively shallow gravels around two metres deep which overlie massive mudstone layers known as the Blue Bottom. The gravels are of recent glacial origin and the mudstones are older uplifted marine terraces.

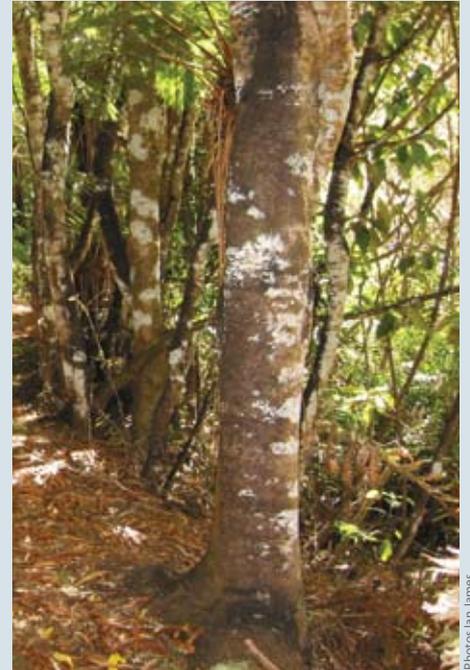
A visitor to the town of Rutherglen and the Welshmans workings in 1867 described the area as 'a collection of dwellings of wood, calico and iron put together without much regard for architectural or picturesque effect... situated in an open clearing in a gully, the sides of which are high terraces and

the surface of which has from one end to the other been tossed up, tunnelled, bored and tortured into every conceivable form of confusion in the indefatigable search for the precious metal!' *The West Coast Gold Rushes*, Phillip Ross May, 1962.

Right: The regenerating kamahi forest with emerging podocarps on the old dam in the Wilsons' covenant.

Below: Miners sluicing gold-containing gravels in Kumara in the 1870s.

Below right: Helen Wilson by an old sluice face.



Photos Ian James



Photo: History House Museum, Greymouth

A walk into the Wilsons' covenant reveals the past turmoil. The miners cleared nearly everything in their path. They built a small dam, which still remains, to provide the water for sluicing the gravels. Channels led away from the dam to the auriferous (gold-containing) ground where now only stone fields remain.

Fortunately, clumps of the original forest survived the onslaught and these provided the seed source for today's trees.

An area of untouched forest with some huge southern rata remains undisturbed in the covenant. 'Young rimu, totara, miro, hinau and kahikatea are coming through now,' says Helen. 'We have also noticed an increase in the number of smaller birds, especially grey warblers, after rat poisoning we did with the help of QEII and recent possum poisoning.'

'The walking track we have retained through the covenant is quite special! The walk through the gold mining workings takes about 30 minutes.'

Visitors are welcome by appointment. Contact Helen and Allan at wilson@minidata.co.nz



Photos: Ian James

Inland from Hokitika, a bush covered gully with mine workings and a small creek system were features that attracted **Keith Morfett and Clare Backes** to their property in 1994.

The land is on the Blue Spur, an area extensively mined by hand in the 1870s and now pockmarked with a mining legacy of water races, shafts and tunnels.

With the increasing health of the forest, escalating bird populations and rapid subdivision development in the area, Keith and Clare decided to protect 19ha of regenerating podocarp-hardwood forest in 2007 with a QEII covenant named Big Paddock, after the gold mining days.

Over the years, Keith and Clare have trapped possums and stoats in the covenant and poisoned rats. Bird populations have flourished with weka in particular doing well, breeding twice a year. 'We will carry on with trapping pests to encourage even more birds,' says Clare.



Photos: Ian James

Top: In one tunnel in the Big Paddock covenant that is stable enough to be explored, visitors can see where the lead of gold, an old sand beach covered in gravels, was followed into the hillside to a depth of about 80m. All was carved by hardy miners with pick and shovel.

Left: A 45-minute walk with amazing views of the Southern Alps was developed by Keith through the forest and over pakihi on the rest of their land.

Due to the dangerous nature of the terrain (some of the shafts are 30m deep) entry to the property is by arrangement.

Contact Keith and Clare on bluespur@xtra.co.nz or 03 755 8697.

Flowering plants: Reduced level of pollination

An update from the Landcare Research *Sustaining and restoring biodiversity* programme funded by the Foundation for Research, Science and Technology.



Landcare Research
Manaaki Whenua

Bright flowering trees and shrubs that form an intrinsic part of our landscape such as flax (harakeke), kowhai, mistletoes, rata and tree fuchsia (kotukutuku) are bird pollinated. Birds are attracted to the flowers and pollination occurs when they carry pollen from flower to flower as they seek nectar.

A research team from Canterbury University has been studying the consequences of the reduced number of tui, kereru, bellbirds (korimako) and silvereyes (tauhou) on flower pollination.

Dave Kelly from Canterbury University says the aim is to determine the level of reduced pollination in plants such as scarlet mistletoe *Peraxilla colensoi*, yellow mistletoe *Alepis flavida*, tree fuchsia *Fuchsia excorticata*, and kowhai *Sophora microphylla*.

‘Our research used three pollination treatments at flowering sites,’ says Dave. ‘We bagged some flowers to prevent them from being visited by any pollinators. We tagged other flowers and followed them to see if they were naturally pollinated. The third treatment was pollinating by hand which represents perfect attention from pollinators.’

‘Some of the bagged flowers still set seed even though they couldn’t be visited. This self-pollination means birds are not always needed in some species. By hand, we got good pollination.’

‘But when we looked at the fruit set for naturally visited flowers on the mainland, the levels of fruit set (i.e. seed production) were well down on the levels seen with hand pollination. In other words, not enough birds were visiting flowers to let the plants make all the seeds they were capable of, and therefore lack of birds was reducing seed production.’



Photo: Jenny Ladley

A tui pollinating scarlet mistletoe *Peraxilla colensoi*. Two native *Peraxilla* species need tui and bellbirds to open their specialised ‘explosive’ flowers. The large red flowers spring open only when tweaked by these birds and cannot be pollinated if they don’t open.

Dave says bird pollination is not working well on the mainland with reduced seed production for a lot of bird pollinated plants. ‘For *Peraxilla*, the amount of seed production is reduced by about 50%.’

‘In Northland, the seed production for New Zealand gloxinia *Rhabdothamnus solandri* (taurepo) is down by about 90%. However, very close by on Little Barrier Island which still has high bird numbers, the seed production is fine in *Rhabdothamnus*.’

Increasing the number of bird pollinators

There is a conservation focus on kereru throughout the country as they are a critical species for dispersing seeds of trees with large fruit such as miro, puriri, tawa and tairare.

‘Our work shows that we also need to focus on birds that are widespread and not endangered like tui and bellbirds. They really matter,’ Dave explains.

‘Tui and bellbird densities are now low in some areas such as Canterbury and Northland respectively. Nobody knows why bellbirds are absent on the mainland north of Hamilton. In the 1950s and ‘60s, tui were common on Banks Peninsula but there’s practically none there now. Is it because of a shortage of food?’

‘A benefit of QEII covenants is that they keep

the function of forests going,’ says Dave. ‘They provide an environment where both flowering plants and bird pollinators thrive.’

‘To help provide food sources for bird pollinators, plant flowering species such as fuchsias, kowhai and flaxes, plant natives that flower through the winter, for example, five-finger and puriri, and establish mistletoes.’

Dave adds that predator control also increases bird densities. ‘An experiment we did at Craigieburn, a site with reduced mistletoe pollination, measured the effects of stoat control during the nesting seasons of 2000/01 and 2001/02.’

‘Trapping stoats significantly reduced stoat numbers in the area compared to a nearby non-treatment area. Bellbird fledging increased by 10-fold and bellbird density increased by 80%. The good news is that it proved surprisingly easy to boost bellbird densities.’

‘Unfortunately, mistletoe pollination and fruit set did not increase. The reasons for this are not clear, but we are now exploring plant-bird interactions in places with very high bird densities to try to understand how bird densities interact with mistletoe flowering density to determine pollination rate.’

For more information on the research visit <http://www.biol.canterbury.ac.nz/mistletoes/home.shtml>

Covenants around New Zealand protect our bright flowering species

Right: This fuchsia forest is protected by Tim and Sue Craw's 4ha montane forest QEII covenant on the flanks of Mt Pearce north of Akaroa.

Below: Yellow mistletoe *Alepis flavida* growing on beech at an approved covenant in eastern Wairarapa. This species was thought to be extinct in this area.

Bottom left: Scarlet mistletoe *Peraxilla colensoi* on silver beech in the 2.8ha beech-podocarp forest open space covenant of Peter Clausen and Sue Rewcastle at Dovedale, inland Nelson.

Bottom right: Kowhai in full bloom attract tui and bellbirds in profusion at Albert and Hazel Emmett's 8ha forest covenant at Kawhia Harbour.



Photo: Miles Giller



Photo: Robyn Smith



Photo: Matt Walters



Photos: Phillip Lissaman



Photo: Malcolm Mackenzie



Photo: Copyright Nga Manu Images www.ngamanuimages.org.nz

Top: Flowers of the tree fuchsia *Fuchsia excorticata* (kotukutuku) are a food source for bellbirds, tui and silvereyes.

Above: Male bellbird feeding on fuchsia flowers.

Covenant fencing maintenance

Once covenant fencing is in place, vegetation is protected from browsing animals such as cattle, sheep, horses and deer. Regeneration may be quite rapid and could eventually damage or even destroy fences.

An effective ongoing monitoring and maintenance programme is needed to ensure fences continue to exclude stock and protect regenerating vegetation.

Philip Lissaman, QEII Nelson-Tasman Representative, gives some examples of fencing maintenance in covenants.



Photo: Marie Taylor

A 9-wire fence (no battens) damaged by a tree fall in a Central Hawke's Bay tawa-podocarp forest protected by an open space covenant for 10 years.

Having no battens makes this fence relatively easy to re-strain after clearing the tree.

Maintaining a good strain on all wires is critical to the effectiveness of a no-batten fence.



Photo: Marie Taylor

A broken batten on a 9-wire post and batten fence around tawa-podocarp forest in Central Hawke's Bay.

Many older batten fences on hill country depend on the battens rather than on wire tension for stockproofing.

A broken batten can be the beginning of the end for a fence. If the wires are not kept at the correct tension, stock will get through.

Replace any broken battens before the fence gets worse.



This kahikatea forest remnant in Waipa was protected by a QEII covenant 20 years ago.

A well-maintained 2-wire electric fence allows cattle to keep vegetation off the wires, reducing the risk of shorting.

This type of fence is not suitable for a sheep stocking regime.



Photo: Malcolm Mackenzie

A broken-down post and batten fence in a Waitomo tawa-rewarewa-mangeao forest protected by a QEII covenant for 10 years.

Sheep seldom take advantage of this sort of disrepair, but hungry cattle would soon be over this fence.



Photo: Stephen Hall

A fallen tawa on a post and batten fence at a Western Bay of Plenty forest protected by an open space covenant for 20 years. Nothing can prevent damage like this happening.

Note the sacrifice staples behind the wire on the corner post are all rusted. This suggests the posts were green (not adequately weathered) when the fence was erected. However, the wire could be reused when repairing the fence.



Photo: Philip Lissman

A fence *across* a steep face of *unstable* rock debris is hard to maintain as stock cause a build-up of material against the fence.

The result can be debris creep as can be seen in this Nelson beech forest protected for nearly 20 years by an open space covenant.

Avoid unstable ground if at all possible when erecting a fence. If it is essential to build a fence on this sort of terrain, it will need regular maintenance.



Photo: Marie Taylor

When evaluated for a QEII covenant in 2004, this Y post (Waratah) and batten fence in primary black beech-totara forest in Tararua was in disrepair.

Is it worth upgrading? The photo to the right shows what can be done. 4mm (8g) wire can be restrained and Y posts straightened. With a few battens or more Y posts, you've got a good fence.

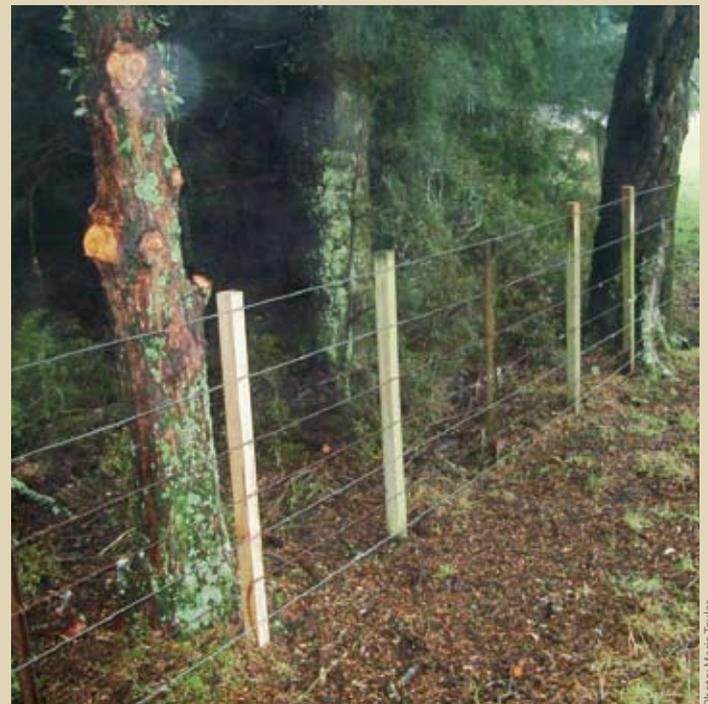


Photo: Marie Taylor

The covenant was registered in 2005. As the forest had been fenced for over 25 years, there was already good regeneration.

Note the batten against the corner beech to keep the wires off the bark. This fence could last 30 years. But by then the totara on the left will be pushing against it; the batten will help protect the wires.

This fence could be like the proverbial bushman's axe: 'It's still my favourite old axe; it's just that it has had four new handles and a new head.'



Photo: Marie Taylor

A deer fence around a Hastings semi-coastal forest that has been protected by an open space covenant for 20 years.

Deer will often keep growth off the wires but deer fences next to forest are a risk (see next example).



Photo: Stephen Hall

Deer fences are difficult to repair when damaged by a tree fall, as shown in this Western Bay of Plenty kamahi-tawa-rewarewa forest protected by a QEII covenant for nine years.

As well as the risk to palatable species, valuable stock can be lost.



Photo: Miles Giller

This semi-coastal primary podocarp forest on Banks Peninsula has been protected with a QEII covenant for 16 years.

A strong Y post and 7-wire (1 barbed) fence with wire droppers is visually less intrusive than the traditional North Island post and batten fence but is still effective.



Photo: Philip Lassaman

Never plant flax next to an electric fence. Regeneration in this coastal wetland near Nelson shows why flax and electric fences don't mix!



Photo: Miles Giller

Lower tiers of palatable species can recover dramatically after destocking as shown in this Hurunui semi-coastal riparian hardwood and podocarp forest, protected for 13 years by an open space covenant.

As the Y post and netting fence has prevented stock trimming back the vegetation, the electric wire at the top will soon short out.

Spraying may be necessary but that can open up the fenceline to weeds.



Photo: Philip Lassaman

Martin Conway stands next to the good, well-maintained fence that protects Martin and Jo Conway's 25 year revegetation project in Brightwater, inland Nelson. All in pasture at the start of the project, the kanuka-titoki-totara forest was protected with an open space covenant in 1986.

If required, your QEII Regional Representative will be able to advise you about fence maintenance during their monitoring visits to your covenant (usually every two years).

Download this article and other fencing information on www.openspace.org.nz under *Covenants/Covenant Fencing*.

Forest fungi

New Zealand has an estimated 20,000 species of fungi, of which only about 6,500 have been reported. About one-third of the reported species have been introduced to New Zealand by humans, mostly in the last 200 years. Of the described indigenous species, about half are endemic.

Fungi are essential to many of the most basic ecosystem processes. Saprobic fungi break down fallen wood and litter returning nutrients to the soil.

Mycorrhizal fungi have a close association with the roots of plants, assisting them to obtain nutrients from the soil.

Habitat loss and other human activities are threatening fungi. Among New Zealand's most endangered organisms are 49 fungi species.

A key to fungal conservation is habitat preservation. While all indigenous forest types are vital for our fungi biodiversity, other critical habitats include wetlands, sand dunes and thermal regions.

Right above and below: Fungi thrive in lowland podocarp-broadleaved forests protected by open space covenants.



Photos: Tony Gates

Rare and undescribed fungi

Although fungi have tiny spores that move easily in the wind, there are many species that are found in only a few places. One example is *Macrocyttidia reducta*, a small truffle-like fungus endemic to New Zealand and found only on Banks Peninsula.

This fungus is found in several reserves, including Omahu Bush protected with QEII covenants by the Gama Foundation, showing that protecting even small amounts of bush can help with the conservation of rare fungi. What it is about the biology of these fungi which gives them such a restricted distribution is not known.



Photo: Peter Johnston, Landcare Research

Private bush reserves have revealed a number of species of previously undescribed fungi. For example, a study of the blue-stain discomycete fungus *Chlorociboria* revealed several undescribed species in New Zealand, three of them subsequently described as new species.



Photo: Jerry Cooper, Landcare Research

Above: *Macrocyttidia reducta*.

Above left: *Chlorociboria*, a saprobe on wood with a blue-green cup-shaped fruiting body.

Fungi in QEII forest covenants

A wide array of fungi from mushrooms to tooth fungi and jellies thrive in forest protected by open space covenants. The best time to see them is in early autumn, after the first rains at the end of a dry summer and as temperatures start to drop. The number seen varies from year to year. In some years, there are spectacular displays of the large soil-inhabiting mycorrhizal mushrooms in beech forests and in stands of manuka and kanuka. In other years, the wood-inhabiting saprobic species can be more common.



Photo: Robyn Smith

Mushrooms

Fleshy fungi with gills.

Mushrooms are a diverse group, all having spores formed on gills on the underside of a fleshy fruiting body. There are many species in New Zealand and they play important roles in nutrient capture and nutrient flow within ecosystems.

Left: *Entoloma hochstetteri* (werewere-kokako) on Great Barrier Island.

This sky blue fungus with pink angular spores is common throughout New Zealand in litter and moss on soil, particularly in lowland broadleaved and podocarp forests. It is featured on our \$50 note.



Stink horns

Saprobic fungi with mature fruiting bodies that are often bizarrely shaped.

Young fruiting bodies are enclosed in an outer layer of tissue like an egg. Spore masses are brown and slimy, with a repulsive smell.

Above: *Ileodictyon cibarium* (basket fungus) in Vincent and Faye Monk's 2ha lowland primary forest covenant on their Featherston dairy farm in the Wairarapa.

A common fungus with a foul smell of rotting flesh found on the forest floor and in grasslands.

Below: *Aseroe* (flower fungus) in lowland primary podocarp-hardwood forest in Tasman.

This fungus has a white stalk-like base and several tapering bright red arms.

Bolete fungi

Mushroom-like fleshy fruiting bodies with pores rather than gills.

Most species are mycorrhizal. Our indigenous species are found under beech, manuka and kanuka.

Right: Boletes in Scott Nicol and Maria Deutsch's 39ha lowland primary beech forest covenant in the Baton Saddle area, inland Nelson.



Photo: Philip Lissaman



Photo: Tony Gates

Pouch fungi

Related to mushrooms, the spore mass remains enclosed inside a cap.

Pouch fungi are often brightly coloured with the blues and reds being attractive to birds. Some species are mycorrhizal while others are saprobic.

Left: *Weraroa erythrocephala* (red pouch fungus) in Andy and Claire Law's 24ha podocarp-hardwood forest covenant near Taihape.

A saprobe found on wood and soil.

Puffballs and earthstars

Spores are powdery and puff out with pressure from wind and rain.

Right: A *Geastrum* species earthstar in Ken and Margaret Hamilton's 7ha podocarp-hardwood forest covenant inland from Kaikoura.

An earthstar has a layered coat which splits and peels back around the spore-containing inner ball.



Photo: Miles Giller



Photo: Philip Lissaman

Woody hard-bracket fungi

Polypore fungi produce spores from a surface of tiny tubes, under a structure that juts out like a shelf.

Right: *Ganoderma applanatum* in lowland tawa forest at Maungatautari in the Waikato.

Found on dead or sometimes living wood, it grows up to 60cm across. A new layer of tubes forms each year beneath the previous one, like a growth ring of a tree.



Photo: Loralee Hyde

Leathery soft-bracket fungi

Leathery to soft bracket-shaped or stalked fungi.

Left : *Trametes* species in Jim and Del Rutherford's 23ha lowland primary podocarp-broadleaved forest covenant near Ashhurst in Manawatu.

Forming leathery, bracket-shaped fruit bodies on wood, this fungus usually has a white to cream lower surface and a concentric smooth to hairy upper surface.



Photo: Tony Gates

Jelly fungi

Variably shaped and coloured jelly-like fruiting bodies on rotten wood.

Right: *Calocera cornea* in a semi-coastal primary podocarp-hardwood forest remnant in Wanganui.

A saprobe found on wood.



Photo: Tony Gates



Photo: Marie Taylor

Wood-ear fungus

The form resembles some of the leathery bracket fungi, but the flesh has a rubbery texture.

Above: *Auricularia cornea* on a karaka in Tapui Land Company Limited's 8ha Poroporo covenant in Tararua.

Saprobic on dead wood with leathery, gelatinous fruiting bodies, this fungus is edible. It was New Zealand's only exported native fungus with huge quantities sent to China in the late 19th century.



Photo: Tony Gates

How to identify fungi

Landcare Research has two web-based resources which will help you to identify fungi.

Fungal Guide – What is this fungus?

Uses a simple key to help identify some common and distinctive fungi, with images and text written especially for the guide. Mushroom groups are defined by small or big on soil or wood. Visit http://fungalguide.landcareresearch.co.nz/WebForms/FG_Home.aspx

Virtual Mycota

Provides a flora-like compilation of fungi with descriptions and illustrations from many different sources, with colour images of many fungi. Mushroom groups are defined by spore colour. Visit http://virtualmycota.landcareresearch.co.nz/webforms/vM_Home.aspx

Other resources

The Hidden Forest

Clive Shirley's website has lots of photos of fungi taken in New Zealand forests. Visit <http://www.hiddenforest.co.nz/fungi/>

Mushrooms and Toadstools Marie Taylor, Reed 1981. Now out of print but many people will have a copy on their bookshelves. Or try websites such as TradeMe.

Nature Guide to the New Zealand Forest John Dawson and Rob Lucas, Godwit 2007. A great general resource with a substantial section on fungi.

Tooth fungi

This diverse group of species shares a single feature – the spore-bearing surface, usually on the underside of the fruiting body, is covered with teeth.

Above: *Hericium clathroides* (pekepekekiore) in Les and Virginia Cranstone's 12ha lowland primary hardwood forest covenant near Fordell in Wanganui.

Saprobic on wood, this fungus has large, cascading masses of narrow, downward, white branches projecting like icicles.

QEII thanks Peter Johnston from Landcare Research for his assistance with this article.

Saltmarsh: Controlling saltwater paspalum

Saltwater paspalum *Paspalum vaginatum* is an exotic perennial grass that forms dense mats along the margins of tidal flats or on sandy or gravel beaches. It has value as a turf grass, for example, on golf courses, but poses a risk to estuaries by invading and changing the composition and structure of ecosystems.

Invasion of saltwater paspalum into estuaries can reduce or exclude feeding and roosting sites for birds, and may alter fish spawning and feeding grounds. It can also change estuarine hydrology by accumulating sediment.

Saltwater paspalum doesn't set viable seed in New Zealand but spreads by fragments floating in the water or by cattle grazing. It easily grows over low-statured saltmarsh vegetation such as sea primrose *Samolus repens* and remuremu *Selliera radicans*.

The paspalum grows vigorously only in upper areas of the North Island including the Waikato, Bay of Plenty, Auckland and Northland regions.

A 21.5ha saltmarsh in the Matua Estuary in Tauranga Harbour is an approved open space covenant. With the discovery of saltwater paspalum infestations covering a combined area of about one hectare in the estuary, the landowners, Tauranga District Council, began controlling it as part of their restoration work.



Saltwater paspalum *Paspalum vaginatum*



Photos: Hamish Kendal

Hamish spraying a waist-high paspalum infestation in the Matua Estuary.

Hamish Kendal, the QEII Coromandel Representative who is also a consultant at Natural Solutions, has been involved in the control. As saltwater paspalum is a grass, and because it grows where there are few, if any, native grasses present, Gallant® herbicide has proved to be an effective control tool, he says. Gallant® is a grass-specific herbicide.

Every summer, two sprays of Gallant® were applied to the paspalum until it had disappeared. Returning to spray it over several years was necessary as it grows back from stems underneath the upper dying layer.

Spraying weeds leaves a void which can be filled again by weeds. However, in an estuary, only native plants recolonise the space left by dying paspalum.

'The restoration of the saltmarsh has been a success,' says Hamish. 'Controlling saltwater paspalum with Gallant® works, and native plants came back quickly without any assistance.'

Protecting estuarine areas

- Estuarine areas on private land, no matter how small, are high-value prospects for protecting with QEII covenants. See page 31 to find out how to protect your special area.
- If you have an estuarine boundary on your property, check in the tidal zone to see if *Paspalum vaginatum* is present. Note the twin seed heads during summertime.
- Two native grasses *Zoysia minima* (prickly couch) and *Zoysia pauciflora* are also found in coastal situations. Visit www.nzpcn.org.nz for details of these plants so they are not mistaken for *Paspalum vaginatum*.
- *Spartina* species (cordgrass) are other weedy grasses of estuaries which have been successfully controlled with Gallant® herbicide by the Department of Conservation around the country.
- Mercer grass *Paspalum distichum* is the close freshwater relative of saltwater paspalum, and can dominate the vegetation in freshwater environments.
- A resource consent is required from your Regional Council to apply Gallant® herbicide in or near any waterbody.



Matua saltmarsh in May 2004, showing the dying infestation of saltwater paspalum.



In November 2007, saltmarsh ribbonwood and bachelor's button *Cotula coronopifolia* now dominate following several spray applications over the paspalum.



Matua saltmarsh soon after the paspalum was sprayed with Gallant®.



Saltmarsh ribbonwood, raupo, mangrove and sea rush in November 2007, taking over the space left by the paspalum. Rarer plants such as native musk *Mimulus repens* are also thriving.

Photos: Hamish Kendall

New QEII website

www.openspace.org.nz

Helping you protect the special nature of your land

To encourage the protection of natural features on private land with open space covenants, QEII has launched a new easy-to-use website.



Visit www.openspace.org.nz to find out more about how to protect your special area with a QEII covenant and to enjoy the wonderful images of forests, wetlands, grasslands, landscapes, and archaeological and cultural sites protected in perpetuity by inspired private landowners in New Zealand.



www.openspace.org.nz	Website section
How to protect the special nature of your land with a QEII covenant	Covenants
Helpful information on covenant management including: <ul style="list-style-type: none"> • Effective covenant fence designs • Pest plants and animals control • Native plant restoration • Useful books and guidelines 	Resources
Stories of inspired people who are creating a legacy for future generations by covenanting their special areas	Covenants
Information about QEII Trust including the Board	About QEII
Download previous issues of <i>Open Space</i> TM magazine	Open Space
Download publications including QEII Annual Reports	Resources
Updates from the <i>Sustaining and Restoring Biodiversity</i> Landcare Research programme	Resources
Properties for sale with registered QEII covenants. For advertising details and costs, contact QEII or email editor@openspace.org.nz	Covenants
Places to visit with open space covenants	Places to Visit
Join QEII Trust or make a donation or bequest	Support QEII
Contact details for QEII Regional Representatives and Head Office	Contact Us

Find out more about protecting your special area by downloading these QEII brochures on www.openspace.org.nz

For printed copies, contact your QEII Regional Representative (see page 2).

Weed control on Takaka Hill Walkway

Members of the Motueka Over-50s Tramping Club spent a day on the Takaka Hill Walkway, cutting back gorse and encroaching growth on parts of the 3km long track. They do the work voluntarily, so the thousands of walkers can enjoy this remarkable walkway each year. The club also works on other covenant walkways.

The Takaka Hill Walkway passes through 321 hectares of private land protected under three QEII open space covenants by the **Harwood** family, who have made it available for public enjoyment. The adjacent Harwood Lookout is also protected by a QEII covenant by the family.

For more details, see *Places to Visit* on www.openspace.org.nz



Photos: Phillip Lissman

Public access extended on the Port Hills, Banks Peninsula

Gibraltar Covenant on the Port Hills was protected with a 63ha open space covenant by the **Gama Foundation** in February.

This new covenant provides a link for public access between the Gama Foundation's Omaha Bush and Gibraltar Rock covenants, four Summit Road Society covenants and council reserves. The unobstructed views of Gibraltar Rock and over the Canterbury Plains from the public walkway are superb.

Right: The stone shed associated with the historic Heaton Rhodes Estate freshwater spring, protected in perpetuity by the new QEII covenant.

Far right: Lichens and algae on a historic dry stone wall. The covenant protects historical as well as visual landscape values.



Photos: Miles Giller

New era for Aroha Island

Aroha Island, a QEII property near Kerikeri, is now managed by the Aroha Island Charitable Trust under a lease agreement with QEII, for open space values and for the enjoyment of the general public.

Volunteers and guests including Labour MP Shane Jones, Department of Conservation Area Manager Rolien Elliot and representatives of the Royal Forest and Bird Protection Society, gathered to celebrate the new era. 'Once you step on to Aroha, you feel a sense of peace, of compassion, of love,' said previous owner Colin Little, 94.

Margaret McKee, QEII Chief Executive, praised the volunteers, saying the island looked fabulous after thousands of hours of hard work put in by them. Kerikeri artist Chris Booth donated a bronze sculpture, *Islands*, for auction, to raise funds for the Aroha Island Charitable Trust, which is community managed and based on volunteers, donations and memberships.

For more on Aroha Island activities including camping, cottage accommodation, B&B in the lodge, educational centre, kiwi night walks and kayaking, visit www.aroha.net.nz e-mail kiwi@aroha.net.nz or call 09 407 5243



Above: The Aroha Island Charitable Trust committee with Colin Little.

Photo: Peter de Graaf/Bay Report



Working together to protect biodiversity

This 7-wire (2 barbed) post and batten fence was rebuilt to protect **Bob and Marilyn Masefield's** 1.8ha semi-coastal podocarp-hardwood forest QEII covenant in Goughs Bay, Banks Peninsula, with contributions from the Biodiversity Condition Fund, QEII and the landowner. Where possible, the existing wires were retained.

This covenant is a valuable remnant of valley-floor forest in the Akaroa Ecological District. Protected from browsing, the forest is now regenerating; the covenant supports one of the best populations of nikau on Banks Peninsula, near its southern distributional limit.



Photos: Miles Giller

Recently registered covenants

A summary of covenants registered from 1 October 2007 to 31 January 2008

Name	Area (ha)	Open space type	District Council
Lawler (x3)	90.1	F,S	Far North
Turanga Estate Limited	1.2	W	Far North
Adams (x2)	2.7	F	Whangarei
Cookson	4.5	F	Whangarei
Grove (x2)	18.5	F	Whangarei
Jenkins	3.6	F	Whangarei
Linehan	2.7	F	Whangarei
Powdrell	13.2	F,S	Whangarei
Amesbury	10.1	F,S	Kaipara
Carter	2.6	F	Kaipara
Schoonderwoerd	3.6	F	Kaipara
Watt, Robertson & Martin	0.7	F	Kaipara
Wellwood, Gunson & Duffy	32.4	F,W	Kaipara
Webber & Sons Limited (x3)	33.4	S,W	Rodney
Hamilton	2.5	F	Franklin
Kitemoana Station Limited	11.7	F	Franklin
Mitchell, Kelly & Muir	7.0	F,W	Franklin
Nixon (x2)	2.5	F	Franklin
Innes & Crockett	3.4	F	Thames-Coromandel
Diprose	40.1	F,G,S	Matamata-Piako
Hiona Heights Limited	111.1	F,G,S	Matamata-Piako
Wightman	1.6	F	Matamata-Piako
Charleston & Keyte	10.2	F	Waipa
Fuchs	4.9	F	Waipa
McMullin & Rutherford	20.4	F	Waipa
Miller & Lorigan	12.6	F	Waipa
O'Brien & Calvert	3.6	F	Waipa
Whanake Farms Limited	25.4	F, S	Waipa
Coley	2.3	F	Otorohanga
Iremonger	0.8	F	Waitomo
Verry	15.5	F,L,S,W	Waitomo
Barlow	2.1	W	Ruapehu
Dickie, Milward & Thomson	1.8	W	Ruapehu
Oosten, Percy, De Lautour & Kite	4.4	F,W	Gisborne
Ryan & King	17.9	F	Gisborne

Name	Area (ha)	Open space type	District Council
Hawke's Bay Trustee Company Limited	13.2	W	Hastings
Holt	193.5	A,FL	Hastings
Lyons	10.7	W	Hastings
McLaren	5.2	F	Hastings
Barrett	2.0	F	New Plymouth
Kaipikari Farm Limited	9.8	F	New Plymouth
Maxwell	8.5	F,W	New Plymouth
Megaw	1.9	F	New Plymouth
Johnson	1.0	W	Stratford
Symes	4.3	W	South Taranaki
Mayclair	0.7	F	Horowhenua
Hales	0.3	F	Tararua
McKay, Houston & Lowes	6.0	F	Masterton
Moiki Farm Limited	5.7	F	South Wairarapa
Daglish	4.2	F	Hutt
Coles	33.3	F	Marlborough
Harvey	1.5	F,S	Marlborough
Chivers	1.2	F	Tasman
Hannah	4.9	F	Tasman
Marshall & Horne	0.9	F	Tasman
Morrissey & Harwood	5.7	F	Tasman
Wild Weka Limited	10.2	F	Grey
Bay Paddock Limited	13.6	W	Kaikoura
Hamilton & Fryer	2.8	F	Kaikoura
Hasselman & Steven	10.8	F,W	Timaru
Morrison & Hole	19.3	F,W	Timaru
Anderson	10.1	F	Clutha
Broughton	12.1	F	Southland
Nichol & Craven	1.8	G,S	Southland
Southland District Council	5.7	W	Southland

Key: A Archaeological feature F Forest G Grassland
 Ga Garden / arboretum Ge Geological feature L Landscape
 S Shrubland T Treeland W Wetland

Covenants by Regional Council – 31 January 2008

Regional Council	Total land area in the region (ha)	No. of registered covenants	No. of approved covenants	Total area registered & approved (ha)	Largest registered covenant in region (ha)	Average covenant size (ha)
Northland	1,250,000	458	91	8,337	417	15.2
Auckland	500,000	195	45	3,743	841	15.6
Waikato	2,500,000	416	112	16,058	645	30.4
Bay of Plenty	1,223,100	137	19	10,408	6,564	66.7
Gisborne	826,500	95	19	4,135	1,104	36.3
Taranaki	723,600	157	44	3,237	334	16.1
Hawke's Bay	1,420,000	176	45	12,502	4,606	56.6
Horizons	2,221,500	246	46	7,067	276	24.2
Wellington	813,000	233	49	6,004	824	21.3
Tasman	978,600	101	15	1,975	641	17.0
Nelson	42,100	8	3	320	140	29.1
Marlborough	1,049,500	44	11	1,827	182	33.2
West Coast	2,300,000	33	7	1,710	619	42.7
Canterbury	4,220,000	182	38	12,380	1,679	56.3
Otago	3,200,000	120	30	10,224	2,735	68.2
Southland	3,035,000	159	54	5,353	214	25.1
Totals		2,760	628	105,282		31.1



Photo: Malcolm MacKenzie

Highly visible from State Highway 3, three kilometres south of Te Kuiti, Chris and Sibyl Iremonger's kahikatea stand was protected with an 0.8ha QEII covenant in January.

Regional representatives

Waikato



Rex Webby, the new Regional Representative for Waikato, has had 40 years experience in soil conservation and agricultural research. For the past 10 years he has been undertaking research on farm systems at Ruakura AgResearch, looking at interactions and consequent downstream effects.

Rex and his wife Margaret live in Hamilton. They have a small bush block in Coromandel which has a district council covenant.

Hawke's Bay



Vin Merwood is the new Hawke's Bay Regional Representative. Vin's parents farmed in Taihape and both he and his wife Val have had farm management careers. He managed sheep and beef stations in Hawke's Bay for the past 35 years, retiring last year from managing the 2,500 hectare Kereru station for 19 years. Vin was the Hawke's Bay Farm Forester of the year in 2006.

Rangitikei-Manawatu-Wanganui



John Williamson, the new Regional Representative for Rangitikei-Manawatu-Wanganui, has farmed in the Manawatu for the last 24 years with his wife Ann.

A long-time interest and commitment to the environment has seen John involved in restoration projects and an enthusiasm for the outdoors with tramping and education being a passion. He has a broad knowledge base and a deep basket of practical skills that can be called upon.

Field Operations Manager



Aalbert Rebergen has joined QEII in Wellington as Field Operations Manager. Originally from the Netherlands, Aalbert has been in New Zealand since 1987 and has worked for the Department of Conservation in Kaikoura, Twizel and Masterton. He has a Diploma in Wildlife Management from Otago University.

He joined the Otago Regional Council in 2002 as an ecologist/biodiversity officer and was involved in negotiating the protection of over 50 natural areas, working closely with QEII. Part of that role was looking for practical solutions to conservation management within a farmed environment. He is looking forward to working with QEII, our partners and covenantors to protect our unique biodiversity.

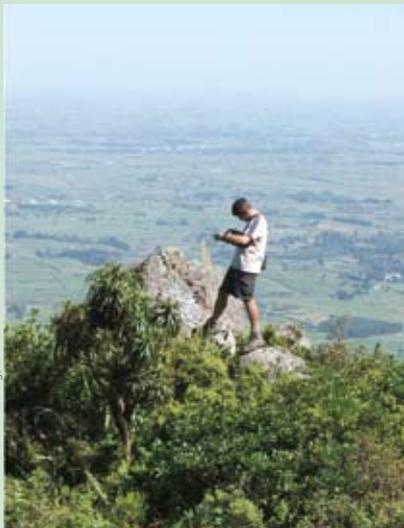
New Year Honours

Yvonne Sharp, QEII Deputy Chairperson, was made a Member of the New Zealand Order of Merit (MNZM) for services to local body affairs and the community. Yvonne was Mayor of the Far North District for three terms and has been a QEII director since September 2003. She was recently appointed chairperson of the New Zealand Road Safety Trust.

Robert Johnston was made a Member of the New Zealand Order of Merit (MNZM) for services to farming, local body affairs and the community. He has had a long involvement in local government, conservation, the wool industry and farming in Canterbury. Robert has two QEII covenants protecting 313ha of tussock grassland and forest in Ashley Gorge near Oxford.



Malcolm Piper, QEII Gisborne Regional Representative, and **Ted Parsons** saddled up to assess the fencing of a proposed covenant between Mounts Hikurangi and Aorangi west of Ruatoria. Following a two hour drive, they had a two hour ride to the back of the farm.



Hamish Dean, QEII East Waikato Regional Representative, assesses lowland forest protected by **Hiona Heights Limited** with an 111 ha open space covenant in October 2007. Neinei, broadleaf, and mingimingi are visible. The covenant buffers the Kaimai-Mamaku Conservation Park and has high visual landscape values.

QEII Trust: Help us to protect our natural features

Protecting natural features helps New Zealand

- Many of our plants, animals and landscapes are unique to New Zealand. This helps set us apart and define us as a nation.
- Unfortunately, many of these species and features are under threat. The decreasing diversity of our indigenous flora and fauna is regarded as one of our biggest environmental problems.
- New Zealand has a network of publicly owned conservation areas. However, 70% of land is in private ownership. Many habitats and features are found only on privately owned land and can be protected only with the goodwill and action of landowners.

Practical land management and farm productivity

- Many farmers protect natural features because it makes good land management sense.
- Bush and wetlands help filter rain and runoff ensuring water quality. They encourage recycling of nutrients and reduce soil erosion.
- Forest remnants reduce wind and provide shelter and shade, enhancing stock management and production.
- Fencing allows regeneration of bush, helps protect stream banks and water quality, and keeps stock out of hard to manage areas.
- Healthy bush and natural landscapes beautify and add economic value to farm properties.



QEII is always in need of greater financial and moral support for its work. You can help by becoming a QEII Trust member.

Your benefits as a QEII Trust member

- Three issues of *Open Space*™ magazine a year.
- Free or discounted entrance to properties owned or administered by the National Trust (UK), National Trust for Scotland, National Trust of Australia (all States), Barbados National Trust, Bermuda National Trust, National Trust for Fiji, Georgia Trust for Historic Preservation, Gibraltar Heritage Trust, Japan National Trust and National Trust for Zimbabwe.
- Entitlement to nominate and vote two members onto the QEII National Trust Board of Directors.

Financial members must have a residential address in New Zealand. QEII covenantors automatically become members.

To join QEII Trust: post the membership application to QEII National Trust, PO Box 3341, Wellington 6140, email info@openspace.org.nz or phone 04 472 6626, or from outside Wellington 0800 4 OPENSACE (0800 467 367).

QEII National Trust Membership Application

Title Name

Address

Postcode Phone (0) Email

Membership Type (please tick)

Individual \$30 Family \$45 Life \$550

Corporate – business \$75

Corporate – non profit organisation \$50

Subscriptions include GST. Financial members must have a residential address in New Zealand.

Donation (optional)

Donations over \$5.00 are tax deductible.

\$100 \$50 \$20 Other \$

Method of payment Cheque MasterCard Visa

CREDIT CARD DETAILS

Number:

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Cardholder name Expiry date Signature

Total \$ Please send a receipt

For direct debit option, please email info@openspace.org.nz

Please send me more information on:

Making a bequest to QEII Open Space Covenants

Gift Membership

Gift to: Name & address

Send next year's gift renewal to me or to the recipient

Membership runs from 1 July to 30 June. New memberships after 31 March will come due for renewal 30 June the following year.

QEII Trust: Helping you protect the special nature of your land

What is a QEII open space covenant?

A covenant is a legally binding protection agreement which is registered on the title of the land. It is voluntary but once in place binds the current and all subsequent landowners.

Private property rights are not jeopardised – the landowner retains ownership and management of the land. Visitor access is available only with the landowner's prior permission.

Each covenant is unique. It can apply to the whole property or just part of the property. There can be different management areas within a covenant with varying applicable conditions. Conditions can be stringent where rare or vulnerable natural features or habitats are being protected.

Open space covenants are generally in perpetuity although there are variable term covenants. These include **Kawenata** on Māori land which recognises tino rangatiratanga, and **Life of the Trees** where individual trees occur in a situation where they may not be self-generating. **Landscape protection agreements** are used where the land does not have title such as roadside areas.

The average covenant size is 31 hectares, with the largest being over 6,500 hectares. There are nearly 3,400 registered and approved covenants from the Far North to Stewart Island, from sea level to above the bush line.

Managing a QEII open space covenant

QEII helps landowners with ongoing management advice and support. A management plan may be prepared with the landowner when a covenant is established, which sets out ongoing management objectives and provides guidance on aspects such as species management, pest control and restoration methods.

Each covenant is visited regularly (usually every two years) to monitor its condition and trends, identify and address any threats, and advise the owner about how to meet the covenant objectives.

How to covenant your special area

To protect a special area on your property, these steps are typically needed to gain a QEII open space covenant.

- **Enquiry** Ask your region's QEII representative (see page 2) to visit your property.
- **Evaluation** The QEII representative will evaluate your special area against a wide range of criteria including ecological and biodiversity value, naturalness, sustainability, existing or potential value as an ecological corridor, wildlife, geological features, landscape values, cultural and heritage values. There will also be practical considerations including management needs, threats to site values, your motivation and potential sources of funding.

- **Approval** The QEII Trust Board will consider the evaluation, and approve the covenant if it meets the criteria. You will then be asked to sign a covenant agreement.
- **Fencing** If required, the covenant will have to be fenced next.
- **Survey** An accurate survey plan or aerial photodiagram of the covenant area will be prepared, which you will need to check and sign.
- **Registration** The covenant will then be formally registered on the title of your land with Land Information New Zealand. QEII will lodge all the necessary documentation.

Funding assistance

Your QEII open space covenant may be non-rateable. See *QEII Recommended Best Practice to Local Government on Rates Relief* under *Resources/Publications* on www.openspace.org.nz

You may also be eligible for assistance with funding for items such as fencing, weed and pest control, and restoration planting. Your QEII representative will be able to advise you about possible funding sources.

Below: Forked sundew *Drosera binata* at Toni Morrison and Nathan Hole's wetland covenant at Kakahu in South Canterbury. A coastal to subalpine insectivorous plant, it is found in bogs and swamps throughout New Zealand but is now uncommon in lowland Canterbury.



Photo: Miles Giller

Conservation through everyday living in Peel Forest

Canterbury lowland forests were cleared quickly following European settlement as they were an accessible source of good timber and tended to be on fertile soil well suited to agriculture.

On Clarke Flat on the south bank of the Rangitata River, the Peel Forest Outdoor Pursuits Charitable Trust protected 19ha of lowland forest with a QEII covenant in June 2005. The forest includes mature totara and kahikatea that escaped logging in the early 1900s.

Sycamore trees (*Acer pseudoplatanus*) are dominant in portions of the covenant. However, sycamore is not found in the heavier native canopy as although shade-tolerant as a seedling, it needs ample light to grow larger. Sycamore is not officially a plant pest in Canterbury but it is a weed in some situations and needs considerable work to control.

Landcare Research has been trialling sycamore control in the covenant over the last five years. Some trees have been ring-barked, some clear-felled and others left alone. Each year, progress is monitored.

The Peel Forest Ecolodge in the covenant provides environmental education through everyday living. 'It is part of our philosophy to encourage conservation and to show people the benefits of living in the outdoors,' says Wayne Keenan, Director. 'We have something a bit different, a working covenant where people can stay on-site.'

'All kinds of groups such as schools and families use the Ecolodge for education or as a retreat. Some do sycamore management. We show them how to identify natives and sycamores. They then pull out sycamore seedlings in 10m x 20m grids or use a vehicle to remove the bigger ones.'

'People love the feeling of being in the bush and away from roads,' says Wayne.

Top right: An overview of the forest covenant with the Rangitata River at the rear. The foreground shows strong regeneration of kahikatea. At the mid-left, the results of the sycamore control trial are evident.

Middle: Kahikatea regeneration in the covenant. There are no sycamores here



Photo: Miles Giller



Photo: Miles Giller



Photo: Kathryn Hill



due to the heavy shading. Tui are now reappearing in the forest.

Above left: Ring-barked sycamores amongst strong regeneration, with Mt Peel in the background. 'After fencing the covenant, the regeneration has been really good and this has reduced the number of sycamore

seedlings,' says Wayne. 'Previously, cattle kept the native seedlings down.'

Above right: The Peel Forest Ecolodge. For more details, phone 03 696 3832, email pfopc@xtra.co.nz or visit www.peelforestopc.org.nz