TRUE COLOURS

AUGUST 2001

ATAWHAI-WHENUA A LABOUR OF LOVE FOR DON CHAPPLE

Most days over the past eight years have seen Don Chapple working to restore a 17.5 ha (40 acre) hillside block of Waiheke Island land to coastal native forest. While he admits it has been tough going at times, a commitment to returning the land to its natural state has driven 72 year old Don to continue volunteering his time to the project.

The land, in Auckland's Hauraki Gulf, was gifted to the Royal NZ Forest & Bird Society by Nick and Nettie Johnstone in 1993. According to Don it was "not particularly attractive, with cruddy old pasture and many eroded slopes". However, its location right by the ferry terminal at Matiatia Bay made it an ideal project to educate the public about the value of land restoration.

Since then Don and hundreds of volunteers have planted more than 30,000 trees. In order to maintain the land's ecological integrity, they have only planted tree species native to Waiheke Island and they also try to use seed sourced from the island.

Several thousand pohutukawa have been planted, in addition to other coastal species such as ngaio, puriri, karaka, kohekohe, kahikatea, totara, matai, miro and rimu. The lack of possums on the island has meant the trees have thrived.

While it will take another three years before the project nears completion, the land is now anything but "cruddy".

"Eight years ago the land really needed healing, and that's why the reserve has been called Atawhai-whenua – a caring or kindness to the land," says Don. The land has been systematically planted to ensure an area is fully restored before moving on. Don and volunteers such as school groups are now labouring their way through the western section. "We've been slowed up by heavy kikuyu grass and dense mats of gorse and mulenbeckia, so any extra help is most welcome," he says.

Don, a social anthropologist and former teacher, has voluntarily worked about 40 hours a week on the project. Nowadays he allows himself two days a week off – "I'm slacking off!" At times he has found the work laborious, but has been driven by a strong vision of how the restored land will appear. "I don't just see a seedling in the grass, but a huge tree in a forest."

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Then and now: Atawhai-whenua, seen here from Gollop's Hill, has become progressively greener since the first photo taken in 1994.

PROTECTING POHUTUKAWA & RATA

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THE INCREDIBLE JOURNEY INTO THE LOST WORLD OF POHUTUKAWA AND RATA'S LEAF INVADERS

There is more to pohutukawa and rata than meets the eye, for a 'lost world' exists on every leaf. Peter Johnston, a mycologist at Landcare Research, gets out his magnifying glass and takes a closer look.

The hundreds of fungi living on and in pohutukawa and rata leaves are specialists: some only live on dead leaves, while others prefer living ones; there are surface dwellers and ones that only live inside the leaf. Some live on top of the leaf, leaving the undersides for other species. Most of the fungi are only found in New Zealand – and only on pohutukawa or rata. Some fungi cause diseases, but others may help protect against insects by developing a mutually beneficial relationship with their host tree. The tree provides nutrients and protection from the environment, while fungus byproducts help protect the tree from insect pests.

Although much is known about some fungi, in most cases their 'purpose in life' has yet to be discovered. In fact, many fungi are unnamed. For example, purplish round leaf spot commonly seen on pohutukawa leaves is caused by an undescribed Leptomelanconium species.

We can only guess at the importance of these leaf fungi to a tree, but many are likely to have co-evolved with pohutukawa and rata

FUNDING COMMUNITY PROJECTS

Protecting pohutukawa and rata is too big a task for Project Crimson to undertake on its own, so we work in partnership with community organisations by providing them with funding.

You'll see from the following list that we have supported a wide number of individuals and groups this winter, on activities ranging from possum control and the fencing of mature stands to conducting research.

Conscious of the need for more rata activities, we have this year allocated 35% of our budget toward rata projects, with a growing presence in the South Island. The split would have been 50/50 between pohutukawa and rata but for our support of Auckland Zoo. In our single largest sponsorship ever, we provided funding for the pohutukawa in the new sea lion enclosure.

We are delighted to be able to provide this financial support to the communities of New Zealand and welcome their acceptance of the challenge to get out the gumboots and do the spade work.

Chris Liddell
Chairman, Project Crimson

ORGANISATION/INDIVIDUAL	LOCATION	NATURE OF PROJECT	P or R
Arahoe Primary School	Auckland	Pohutukawa trees for school grounds	P
Auckland Memorial Park	Auckland	Pohutukawa trees for memorial grove	P
Auckland Regional Council	Long Bay, Auckland	Pohutukawa trees	P
Auckland Zoo	Auckland	Sponsorship of pohutukawa trees for new Sealion Shores exhibit	P
CCS - Horizon Gardens	Auckland	Growing pohutukawa	P
Community Business and Environment Centre	Northland	Propagating and distributing pohutukawa in Northland	P
Craig Anderson	Rakino Island	Pohutukawa trees	P
Department of Conservation	East Cape	Hicks Bay pohutukawa restoration project	P
Department of Conservation	East Cape	Te Aowera Marae - purchase of pohutukawa seedlings and fencing materials	P
Department of Conservation	East Cape	Tikapa a Hinekopeka pohutukawa restoration	P
Department of Conservation	Northland	Pohutukawa trees for Eco Village, Kaiwaka	P
Department of Conservation	Northland	Propoagation of pohutukawa in Kerikeri Nursery	P
Department of Conservation	Northland	Pohutukawa for Te Tii Maori Community project	P
Department of Conservation	Rangitaiki	Port Ohope Spit Restoration project	P
Department of Conservation	Tairua	Pohutukawa trees for planting in Coromandel area	P
Department of Conservation	Waikato	Planting material and pohutukawa trees	P
Department of Conservation	Warkworth	Pohutukawa trees for East and West Coast beaches in Warkworth area	P
Devonport Conservation Corps	Auckland	Growing pohutukawa for Motuihi Island	P
Dieter & Elena Lieskounig	Whitford, Auckland	Pohutukawa trees	P
Dr Shane Wright	University of Auckland	Continued research into distribution of Metrosideros in the Pacific	P
Fiona MacDonald	Auckland	Fencing of pohutukawa	P
Geoffrey and Reihana Robinson	Coromandel	Pohutukawa planting and possum control	P
Glamorgan School	Torbay, Auckland	Pohutukawa trees for school grounds	P
Grey Lynn Primary School	Grey Lynn, Auckland	Pohutukawa trees	P
Horeke Progressive League	Horeke	Pohutukawa trees to be planted on foreshore at Horeke	P
IHC Thames	Thames	Propagating and growing pohutukawa	P
Judy Rae	Waiheke Island	Pohutukawa trees for Wharetana & Putiki Bays	P
Keep Coromandel Beautiful Society Inc	Coromandel	Pohutukawa trees	P
Lake House Arts Centre	Takapuna, Auckland	Pohutukawa trees for landscaping Lake House grounds	P
Margaret Kawharu - Ngati Whatua	Muriwai	Pohutukawa trees for planting on Urupa in Woodhill forest	P
Massey University Albany Campus	Albany, Auckland	Pohutukawa trees for campus grounds	P
Motuora Restoration Society	Orewa	Upkeep of plant nursery growing pohutukawa	P
Neil Bailey	Coromandel	Pohutukawa trees	P
Ngati Hei Trust	Whitianga	Pohutukawa trees	P
Ngati Porou Conservation Corps	Gisborne	Weed control and maintenance of existing plantings	P
NZ Tree Planting Foundation	Mt Wellington, Auckland	Pohutukawa trees	P
Opotiki District Council	Opotiki	Ongoing research with Forest Research Institute	P

A rata cup fungus growing on a fallen leaf. Several species of cup fungi live within healthy pohutukawa or rata leaves, forming their cups only after the leaves have died from old age and fallen from the tree.

over millions of years. For this reason, restoration projects should consider whether the fungi normally found in a natural stand of trees are also becoming established in planted stands. This co-relationship may be important for the trees' future health.

The presence – or lack – of fungi may have flow-on effects to other parts of pohutukawa and rata's ecosystems. For example, many insects rely on fungi for food. If the fungi – and consequently insects – were to disappear then bird life would be affected.

Many of the fungi living on pohutukawa and rata are hard to see, but without them a large part of the trees' natural diversity would be missing. But take a look for yourself! A simple magnifying glass will provide a fascinating insight into the lost world of pohutukawa and rata's leaf invaders.

ORGANISATION/INDIVIDUAL	LOCATION	NATURE OF PROJECT	P or R
Oruaiti School	Mangonui, Northland	Pohutukawa trees	P
Otumoetai College	Tauranga	Pohutukawa trees	P
Paikea-Whitireia Trust	Gisborne	Pohutukawa trees	P
Plantscape Hokianga	Opononi	Propagation of pohutukawa for community groups	P
Port Jackson Road Pohutukawas	Coromandel	Planting and fencing pohutukawa	P
Project Hahei	Hahei, Coromandel	Possum control	P
Project Meola Reef	Pt Chevalier, Auckland	Pohutukawa trees	P
St Heliers Bay Pony Club Inc	St Heliers, Auckland	Pohutukawa trees	P
Taumata B Whanau & Community Beach Care Group	Pakiri	Fencing of coastal pohutukawa stand	P
Tauranga District Group RDA inc	Tauranga	Pohutukawa trees for planting Ngapeke Reserve	P
Te Puna Quarry Park Society Inc	Tauranga	Preparation and planting of pohutukawa	P
Thames and Coromandel Pohutukawa Festival	Coromandel	Pohutukawa trees	P
Thames Coast Protection Society	Thames	Possum Control	P
Tokomaru Bay Maori Committee	Tokomaru Bay	Pohutukawa trees	P
Trees For Survival	Marton	Growing and planting pohutukawa	P
Wairau Intermediate School	Takapuna, Auckland	Pohutukawa trees for school grounds	P
Whangamata Tramping Club	Whangamata, Coromandel	Animal and pest control	P
Whangapoua Beach Reserves Management Group	Coromandel	Pohutukawa trees	P
Wiremu Davis	Whitianga, Coromandel	Pohutukawa trees	P
Reg Janes	Tauranga	Material for propagating and growing pohutukawa and rata	P&R
Derek Gosling	Opotiki	Growing pohutukawa & northern rata for BOP area	P&R
Carters - Mount Maunganui	Tauranga	Pohutukawa and rata trees for distribution in the community	P&R
Carter Holt Harvey Pulp & Paper	Kawerau	Pohutukawa and northern rata trees for roadside plantings	P&R
Te Kouma Farm	Coromandel	Pohutukawa and northern rata trees for coastal revegetation	P&R
The Weedfree Waitakere Trust	Waitakere Ranges, Auckland	Pohutukawa and northern rata propagation	P&R
Te Puawaitanga	Kaipara Harbour	Pohutukawa and rata plantings	P&R
Alan Winter	Ohariu Valley	Northern rata trees	R
Bull Creek Rata Protection	Alexandra	Conserve stand of southern rata	R
Bushy Park Trust	Wanganui	Predator control in northern rata forest	R
Department of Conservation	Central Hawkes Bay	Te Angiangi Marine Reserve Project - preparation, planting, fencing and ongoing care of northern rata	R
Department of Conservation	Mana Island	Planting of northern rata on Mana Island	R
Department of Conservation	Otago	Research into distribution of Southern rata in SE Otago	R
Department of Conservation	Palmerston North	Northern rata resoration project	R
Department of Conservation	Wairoa	Possum control of northern rata	R
Department of Conservation	Wanaka	Propagation of southern rata for Stevensons Island	R
Friends of Maara Roa (Inc)	Wellington	Northern rata in Cannons Creek Valley	R
Ian St George	Wairarapa	Northern rata trees	R
Makara Peak Mountain Bike Park	Wellington	Possum control and planting of northern rata	R
Mopanui Ecological Environmental Society	Dunedin	Materials for propagation of southern rata	R
Peel Forest Outdoor Pursuits Centre	Geraldine	Purchase of rata seedlings for regeneration project	R
Richard Struthers	Otago	Southern rata for Wakatipu Island Reforestation Project	R
Royal New Zealand Forest and Bird Society	Paraparaumu	Purchase northern rata for local projects	R
Royal New Zealand Forest and Bird Society	Rangitikei	Northern and southern rata propagation, planting and maintenance	R
Royal New Zealand Forest and Bird Society	Wellington	Northern rata restoration project	R
Shirley Hayward	Golden Bay	Northern Rata for distribution in Golden Bay and Takaka areas	R
Southland Community Nursery	Otatara, Invercargill	Southern rata propagation	R
The Ark in the Park	Titirangi, Auckland	Study of northern rata pollination	R
The Friends of the Waikanae River	Paraparaumu	Rata for Waikanae River Corridor	R
Trelissick Park/Ngaio Gorge Working Group	Wellington	Northern rata trees	R
Unitec	Auckland	Propagation of North Shore rata	R
Wakatipu Islands Reforestation Project	Otago	Rata seedlings and interpretation signage	R
Westbay Propagation	Westport	Propagation of northern rata for Cape Foulwind restoration project	R
Whakamarino Lodge	Waikaremoana	Northern rata trees	R
YMCA	Wanganui	Purchase of rata for walkway planting	R

PRUNING POINTERS:

HOW TO PREVENT A SNIP TOO FAR

Many people are understandably nervous about pruning their trees in case they get it wrong. While Project Crimson recommends only pruning a tree if it is really necessary (e.g. to avoid blocking light and causing drainage problems), the following pointers will help.

Be patient! Before doing anything take a long look at the tree and envisage how you would like the end result to look.

Cut branches in a way that helps the tree recover. Cuts will seal over if made just above and parallel to the branch collar at the branch node (the point of junction). This collar consists of layers of special tissue that enhance the tree's ability to compartmentalise and isolate decay that begins with the death or removal of a branch. If the cut occurs below the collar, a 'barrier zone' is destroyed. If the cut is made too far above the collar, the stub will decay and may invade healthy tissue below. Chemical sealants are not necessary.

Maintain the tree's natural shape. The crown should be opened out, not cut back. Always remove the following types of branches first: dead wood, crossed branches that chafe each other, unusually dense areas, damaged branches. Reducing the density of the whole crown allows for evenly distributed regrowth, rather than a rush of growth to replace the crown (which is what happens when height is drastically cut back).

Prune after flowering. Although timing is not critical to health, the terminal shoots flower in their second year, so any pruning should occur after flowering (e.g. in the autumn).

For more information, go to http://www.projectcrimson/grow.html

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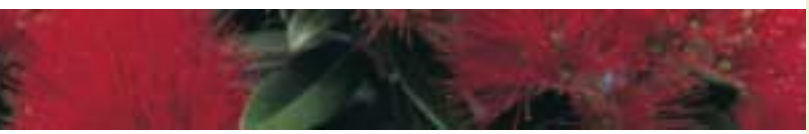
Project Crimson Trustee Mike Lee is impressed with Don's pioneer-like dedication to sheer hard work to achieve his vision: "Don's eight years of mainly solitary toil – through winter wet and summer drought to create a living forest – is a heroic story. I am reminded of the words dedicated to the great English architect Sir Christopher Wren in Saint Paul's Cathedral: If you seek his monument – look around you."



WANTED

Volunteers to help restore Atawhai-whenua. If you would like to lend a hand, call Don Chapple on (09) 372 5204.

If you'd like to know more about Atawhai-whenua, and how to implement a revegetation programme you may be interested in buying a handbook that Don co-wrote with Rachel Ebbett and Ivan Kitson: *Greening our Gulf Islands: a manual for native revegetation with special reference to Waiheke.*
To buy a copy send a cheque for $9 + 90c postage and packaging ($7 + 90c p&p if you are a NZ Forest & Bird member) to Don Chapple, 10 Te Aroha Ave, Hekerua Bay, Waiheke Island.

QUESTION CORNER

Q. I want to plant a southern rata *(M. umbellata)* in my garden but first want to know more about its root system. Does it have invasive roots that could damage water pipes, or do they have large root buttresses that would disturb buildings or other structures? How wide do the trunks grow?

A. To our knowledge, the southern rata's roots are not known to cause problems, but you need to take the following factors into account when planting your tree:

- Plant the tree as far from underground pipes as possible – at least 2-2.5 metres.
- Avoid planting southern rata near joins in old water and sewerage pipes because in their natural habitat the long roots are known to seek out cracks in rock. However, this should not be a problem with modern plastic piping because there are fewer and tighter joins.
- The tree will not develop a large buttress. Its trunk will eventually reach about 0.5-1 metre in diameter but this will take many decades. However, it might form several trunks and form a more bushy shape, therefore taking up more room.
- Southern rata grow tall – up to 15 metres – so think about potential future issues such as shade and views before you plant a tree.