

**SCIENCE & RESEARCH SERIES NO.42**

**PARTING THE WATERS:  
A JOURNEY TO TAIRAWHITI  
(A PERSONAL VIEW)**

**by**

**Philip Simpson**

Published by  
Head Office,  
Department of Conservation,  
P O Box 10-420,  
Wellington,  
New Zealand

ISSN 0113-3713  
ISBN 0-478-01328-0

© 1991, The Department of Conservation

National Library of New Zealand  
Cataloguing-in-Publication data:

Simpson, Philip, 1946-

Parting the waters : a journey to Tairāwhiti / by Philip Simpson.  
Wellington [N.Z.] : Head Office, Dept. of Conservation, c1991.

1 v. (Science & research series; 0113-3713 ; no. 42)

ISBN 0-478-01328-0

1. Cyclones-Environmental aspects-New Zealand-East Coast (North Island) 2. Soil erosion-New Zealand-East Coast (North Island)  
3. Conservation of natural resources-New Zealand-East Coast (North Island) 4. East Cape (N.Z.)-Description and travel. 5. Crofoot, Michael. 6. Booth, Susan. I. New Zealand. Dept. of Conservation.  
II. Title. III. Series: Science & research series ; no. 42.

631.45099317 (919.317)

**Keywords:** native plants, restoration, Ngāti Porou, Rangitukia, East Cape, erosion, community involvement, local initiative

## **PREAMBLE**

### **A note from the Director**

The publication of this essay from Philip Simpson brings a new dimension to the Science & Research Division. It is published here because I perceive a need for scientists, on occasion, to disseminate not only methods, data and scientific interpretation but also their approach, understanding and feelings about the studies they are involved in and their reactions to their advisory roles. Philip's essay encapsulates his level of involvement with the concerns of conservationists.

Richard Sadleir  
Director of Science & Research  
November, 1991



**PARTING THE WATERS: A JOURNEY TO TAIRAWHITI  
(A personal view)**

**by  
Philip Simpson**

Science & Research Division, Department of Conservation  
P.O. Box 10-420, Wellington

**ABSTRACT**

Michael Crofoot and Susan Booth journeyed to Tairawhiti (East Cape) in 1989 to help with restoration following the soil erosion related to Cyclone Bola. They ended up at Rangitukia working with Ngati Porou on the establishment of a nursery to grow plants for erosion control. In the process they learned about the natural characteristics and the social complexities of this special place. My brief visit focused on the botanical features - the occurrence of local species and provenances, opportunities to restore bush using native species, and some of the conservation issues that the Department of Conservation is dealing with.

This essay (an edited version of which was published in *Terra Nova*, July, 1991) is a set of personal reflections about the place and its people. The main conclusion is that restoration is a process needing local initiatives from enthusiastic tree people. Small, community nurseries employing local people to propagate local plants is the approach that I favour.

Tairawhiti is the water between North and South - the tropical and the temperate. It is also the land of the rising sun at East Cape: the land which bears the stone which puts the stars to flight -

*Awake! For morning in the bowl of night has flung the stone that puts  
the stars to flight .....*

*The bird of time has but a little way to fly and lo! the bird is on the  
wing!*

Rubaiyat of Omar Khayyam

I often think about and recite these lines as they apply to one's personal life, or society, or to life in general, and in this case I am applying the wisdom to Tairawhiti in terms of its environmental quality and its fitness for human habitation. I am always amazed, when it comes to fixing up land problems, how huge the inertia is in New Zealand. I sometimes think about how easy it is to destroy the bush, but how difficult it is to bring it back. I suppose this is the energy of TIME. But its also a social problem of stopping an old trend and starting a new one - of raising up a new idea from the ashes of the old.

So it was with some amazement that I eventually greeted Michael Crofoot and Susan Booth at my house in Wellington on their way to help restore East Cape. Wrenching themselves from idyllic land enclosing Tai Tapu (Golden Bay) and crossing the physically untouchable and emotionally traumatic Raukawa Moana (Cook Strait) were the two greatest hurdles. I suppose that in the heat of idealism they thought that the worst was over.

So we talked, and in the morning, walked, over some of the issues and ideas - we searched for sour fruits of *Eleagnus* so that Susan's daughter could try them, and we searched in the soil for the mycorrhizal nodules that we suspected must lurk beneath the surface. You see, Michael believes that a key to plant growth in difficult places lies in the soil - specifically in the plant-bacterial or plant-fungal associations that seem to be the norm, rather than the exception, among New Zealand plants. We have all heard about the nitrogen-fixing bacteria in legumes but few of us have an appreciation of the links between fungi and roots - mycorrhiza - a relationship present in virtually all New Zealand forest trees and one specifically concerned with taking up nutrient from the young mineral soils that are constantly needing renewal in New Zealand's rugged landscape. Phosphate, needed to fuel the energy systems of a tree which enable the movement of food through the plant, growth, repair, and reproduction, is made much more readily available by mycorrhiza. In New Zealand, where most of the soil-producing rocks are themselves pretty low in nutrients - being for the most part simply compressed sand and mud - a means of improving the nutrient situation is obviously important. It's another example of Gaia at work - an association among living creatures and their environment for the mutual benefit of all.

When the Tairawhiti land surface was born gradually from the sea, it became clothed with forest. Every part of the surface - the rainfall, the water flow, the soil structure, the temperature, the nutrients - everything, was influenced by the forest. And so the form of the land, given its underlying structure, assumed a shape causally related to forest cover - Tairawhiti forest cover, not that of anywhere else. This established the slope steepness. Given the geology and climate the hills of Tairawhiti would never have been so steep had forest not been present. So when the forest is removed, an adjustment must take place. We witness this adjustment: we call it drought, erosion and flooding. In reality, however, it is the land trying to accommodate a new reality so that conditions for life are improved.

When it comes to eco restoration the old Darwinian model of competition doesn't work: the new Lovelockian model<sup>1</sup> - mostly a restatement of tribal animism with a bit of western science thrown in - is far superior. No wonder Graeme Platt says that native plants don't like soil - they like humus and mulch - because that's how the roots build their relationship with fungi and bacteria. It's amazing how difficult it is to change ideas, especially those that become institutionalised, with paid advisors. It's too late now to eulogise about export-led growth from much of Tairawhiti: the capacity to earn has gone, and has to be rebuilt from scratch. That's what Michael and Susan believed, and that's what they set out to do. Mind you, I don't think they saw themselves as starting a rebirth that could just be exploited again. No way. For many of us the age of exploitation is over. The age of integration is upon us - integration of conservation and development so that resources are sustained; integration of the physical and the spiritual, so that a person's life actually means

---

<sup>1</sup> James Lovelock 1989: *The age of Gaia*, Oxford University Press. 252 pp.

something; integration of pakeha and maori into a partnership of mutual respect. It is small wonder that conflicts emerge when the regional centrepiece is renamed by the newcomers "Poverty Bay".

It was almost a year before I was able to get to Tairāwhiti and see Michael and Susan at work. If you're not part of the community, it's a difficult place to get to - which is true of all parts of New Zealand outside the major cities (and the drift to the `big' cities is by no means unrelated to the problem at hand). I was picked up at the airport and immediately transferred into one of the hidden counter-cultures of New Zealand - at Mike Smith's farm where trees and grass are being integrated in a more ecological way.

It's strange, but people with a life involving trees - at least pakeha people - are often a little strange themselves. It's because you have to be a little independent of mainstream society to believe in nature as opposed to destroying it, and you have to be somewhat idealistic and altruistic too - again, not your average bloke or sheila who really don't have time to think beyond their own lives. Tree people's aspirations are different, and tree people themselves take on a difference. The tree people of New Zealand are largely still in their closets. It used to be dangerous to come out. I've known tree people to be run out of town. It's getting better, but at an astonishingly slow rate given the obvious shortcomings of the arboriphobic mentality.

So, tree people - like Michael, Susan, Mike Smith (President of NZ's Tree Crops Association) - tend to be a little extreme and love to talk. The evening was spent discussing the many people involved in tree matters Tairāwhiti - Murray Ball who has campaigned through his cartoon for years about the danger of tree removal, John Hogan who likewise has campaigned for tree protection in cities, Edward Goldsmith, an international ecologist fostering the wisdom of a return to a tribal mode of life, and even our former Prime Minister, Geoffrey Palmer, who has visited the devastated hill country and understands clearly that people need to conduct their affairs on the land according to the ecological realities that created that land. Young John Elliffe was with us, joining forces with Michael and Susan, bursting with altruistic energy for trees, for New Zealand culture, for DOING something that would help. He represents the new generation abandoned by the work ethic and needing a role compatible with warrior zeal and a sense of social responsibility: needing to be wanted, and knowing he is needed.

The journey north towards `the cape' was dominated, for me, by the image of dying cabbage trees. The mystery disease has recently moved into the area from the north or south and we saw ancient trees that had now quickly succumbed - perhaps its a new pathogen causing this, but tree people know that trees can't survive decades of stock grazing, trampling, farm machinery and weed spraying, as well as natural aging. Trees need natural processes, and throughout this country they are simply becoming stressed to death. Like people, trees need to be surrounded by their young. Today's cabbage trees are not, because their young get eaten, and they are giving up their legendary longevity, wilting under the continuous pressure. I learned later that a legendary cabbage tree at Pohautea Pa near the mouth of the Waipū River, once used as a marker for an offshore fishing ground and as a place to hang the first fish caught as a gift to Tangaroa, had been destroyed to make way for some kind of transmission line.

"Let's stop and have a look at the plants" I said, so we pulled up before the roadside margin of regenerating bush - kohuhu, kawakawa, mahoe and manuka. I noticed immediately that all of these species had small leaves compared to the same species elsewhere, and that the kohuhu carried an undercolour that was almost purple. These are local genetic characteristics of widespread species - adaptations to the regional conditions indicating a characteristic set of conditions and a common response by the plants. All of this distinctiveness is reflected as the homeland of the Ngati Porou. I have often felt that an identity by local people with their local species and forms (provenances) and ecological conditions, is a powerful educator for sustainable land use, by enhancing a feeling of pride in distinctiveness. In this case, the plants told me that there were also sensitivities among the local conditions: difficulties that had to be accommodated. Of course I was well aware that the 'divider of waters' was exposed to cyclones, that its rocks and soils were prone to slide and flow, and that the summers were often very dry. The stories I had heard of poverty added to my vision of sensitivity that was emanating from the plants around me. My reason for being there was suddenly clarified by Susan, who in an archetypal nursery-person's action, clipped bunches of shoots from several different plants to propagate by cuttings. The wonder of seeing roots on a little twig one has carefully prepared and nurtured is, I think, one of the fundamental experiences that nursery people seek.

Michael, Susan, John and I finally made it to our destination. First stop was at Tikitiki where Michael and Susan had started a nursery as part of an MACCESS scheme which therefore employed a number of local people under the overall guidance of a local committee - all of them Ngati Porou. I guess Susan, a pakeha New Zealander, and Michael, a part-Iroquois American, were the technical advisors in terms of species, methods and strategy. But it is essential that their energy is taken up by others, and in this case the tangata-whenua obviously have to run the show and link the plants to the land that needs them.

Rangitukia is in the hills. One leaves the last valley floor at Haha where a patch of primeval kahikatea forest has been preserved, no doubt protected by a strong identity between the bush and the tangata whenua who live there. I have since heard that ecologists are amazed as to the quality of this bush, but it is not surprising considering it is the most easterly kahikatea forest in New Zealand, an extreme, a peninsula, an arm into uniqueness. Tairawhiti abounds with rare and special plants and boundaries. No wonder it divides the seas north and south, as the geography of the marine plants and animals offshore readily indicates as well as those on land. Being on Rangitukia station makes me think of Maori connections with the land. It mystifies me to hear Hari Williams say that Rangitukia was once a 'capital' in Aotearoa - a centre of culture and industry - for now, the damaged valleys and slopes carry the debris of human abandonment.



I think the drive into the hills surprised me. It was gradually shaking the van to bits. The two rivers were up because of weeks of light rain - the place was saturated, the water creamy. Only Michael knew that it was still fordable, and it got deeper later on. I was winding into Maori land to an uncertain social situation, mixing my emotions about abandonment and restoration. I was wondering whether pakeha can help restore Maori land. I try to have a deep respect for Maori land, because I cherish its existence. This country would be in a sad state if no maori land existed. Without doubt there is not enough, just like there is not enough bush. I suppose I was there because sustaining maori land is just as important as sustaining pakeha land; they are certainly equally important ecologically. I had the feeling I was going into important but sensitive, perhaps even dangerous land, where things get lost.

Michael and Susan lived in the shearers quarters. Rangitukia is a hilltop station of some 2000 ha. dissected by steep tributaries of Waipapa. I saw a mosaic of grassland and regenerating forest. The house was functional in a dormitory sort of way - comfortable but spartan, and the view from every window was of hills. I still don't know how Michael and Susan got there, but with his indomitable water-like pressure and Susan's pragmatic solutions they had ended up living and working with the Ngati Porou on very sacred land, only a kilometre or two from East Cape - a thousand kilometres to the east of West Cape, Fiordland. A sense of altruism, a sense of adventure and elements of a sense of escape moved them to this place - to start a nursery, and help restore the land, and the people who use it. The Indian proverb is that to plan for 10 years, plant trees. Michael and Susan knew that the restoration of Tairāwhiti will never end; that it is the process of beginning that is the most important. Michael had explained to me something that I knew but did not feel - that a person can start or seed an idea so that others can carry it on - one person does not have to feel responsible for making sure an idea takes on and spreads. The Rangitukia and Tikitiki nursery initiation was a very small social oasis in an enormous arboridesert, to be started by manuhiri but carried on by the people of the land reliving the creative and productive times of the past.

The nursery of Tikitiki was a familiar affair for those who frequent small nurseries - a shade-cloth covered plastic tubing frame, gravel beds raised above the ground surface to avoid the standing rain-water, and thousands of plants of idiosyncratic extraction in seed boxes, root trainers and plastic pots. It was pioneer stuff, reminding me of some of the early apple packing sheds in Nelson, but it had huge potential with plenty of room to expand and plenty of good soil for growing on young plants before they're planted out. And it had aroha, coming from the local people who supported it and who worked there.

Hal Hovell arrived with the Conservation Department pick-up and was immediately seconded to help collect rotted sawdust from the nearby mill. A thin, uncertain budget meant that every opportunity for assistance with transport and materials was gratefully used: survival is not for the meek. However, while I know there is always abundant soil-conditioning materials available in rural areas, I was somewhat surprised that spontaneous sources and supplies were needed for such a fundamental item. For nursery people a growing medium is a first priority. That's why urban and even rural composting schemes based on household and garden waste could make such a difference in New Zealand - supplying desperately needed organic matter for our impoverished and poisoned soils.

Hal then took me on a trip along the northern coast of the Cape, first to the cape itself, home of the largest known population of *Plantago picta*, one of New Zealand's endemic plantains found only on the coastal papa cliffs between Gisborne and Hicks Bay. Sadly, the main population of several hundred plants had just fallen into the sea in a huge landslide.

It is a special place, the Cape. Offshore is Whangaokeno, for a place so obviously special - too often boringly called East Island. The Cape lighthouse itself sits on a former island, Otiki, now joined to the mainland by marine sands and alluvial deposits brought down from the hills by the Tunanui stream. The name Tunanui evokes a busy history, and all around were the marks of former settlement. Hal searched for some mussels he knew once inhabited a cleft in the intertidal papa, but they had gone, their byssal threads an inappropriate holdfast for the erodible mudstone, and he had to be content with a few limpets. A man and a woman in their twenties collected parengo (karengo, kareko), an olive green seaweed from the upper intertidal rocks. I suddenly felt like an imposter observing the gathering of food, which, long ago, was carried along bush trails to the interior and traded for forest produce. I knew nothing about it, but I have since found out that there is a grave danger of over-collecting in some parts of Aotearoa especially where the green dollar has succumbed to the red white and blue dollar. Somehow, the sacred act of harvesting food from Tangaroa had been interrupted by 'officials', Hal and me, and there was an uneasy feeling at the Cape. I looked at the huge slip and its buried genetic treasure; I looked at the cliff-hanging koromiko and the pendulous taupata, realised again what a special place I was in, and realised further what a sensitive ecology and society I was witnessing.

We drove past the rare coastal forest tawapou (*Planchonella novo-zelandica*), near to its southern last stand, across the dunes where only a single maritime tussock (*Austrofestuca*) now remained, too rare for Hal to risk propagating from, and around the bluff road where the urupa had been bulldozed. Up above Hal pointed to the habitat of the infamous blue kowhai apparently surviving perilously on inaccessible cliffs. He took me up the Karakawhero, a valley now more or less abandoned because the road has been flooded by gravels from slips, and onto Onepoto Bay where a few pingao still remain. A vehicle had scoured some up and left it dead but beautifully yellow in the sand: Hal took it home and gave it to his wife for weaving.

I had gained a lot from my journey to the East, mainly by observing what had been lost.

I collected a sample of the weeping Cape taupata for Michael to propagate. I collected another, totally different, upright form of taupata a few kilometres to the west from underneath the huge pohutukawa that are dotted along the coast, just a short distance from their southernmost natural point at Tolaga Bay. I took these samples back to Tikitiki to indicate the importance of protecting local genetic diversity. Michael and Susan and their helpers were, at that very moment, potting-up some variegated speckled taupata they had got from someone's garden. What a paradox. While I delighted in the intricacies of

habitat and genetic variation, Michael and Susan were teaching the basic skills of propagation to combat desertification, on land where getting anything at all to grow was too great a task for previous governments or the farming lobby. Faced with such a vast task of restoration, not only here in Tairāwhiti, but in virtually all parts of our country, the preservation of genetic integrity may seem like a triviality that adds just one more barrier to achievement. I'm open to debate, but my position is this: if you can't plant natives of local provenance, plant exotics: local plants are better adapted to local climate and soil conditions, they're compatible with local wildlife, they suit the local landscape visually, and they help to foster a sense of local pride and community identity among people. I planned next day to test my view on the papa slip-faces of Rangitukia.

John Elliffe and I were greeted by a wet cold day for our walk around Rangitukia, and the land trembled underfoot with its load of water. First we looked at some slip faces. I was impressed! Seedlings were growing on some of the surfaces - manuka, tauhinu and tutu. None of these species are liked by farmers because, respectively, they spread, degrade wool, and poison stock. But they will grow and I discussed with John the method of cutting manuka, laying it down, securing it with wire pegs and letting the seeds fall, so that new growth pushes up through the dead, protective mulch. Tauhinu could be grown in the same way on drier sunny slips and outwash gravels. We imagined a self-sustaining system in which a farm grew its own erosion control materials. Of course the secondary forest nearby contained a wide range of plants adapted to eroded landscapes. In this area they had to be: kanuka, mapou, kohuhu, turepo, tree ferns, tutu, and various understorey shrubs like mingimingi, karamu and koromiko, and ferns. There is an abundance of suitable plants for erosion control. Some of the wetter slip faces show the whole range of life stages in the return to forest. Clinging to the clay banks are mats of liverwort, *Anthoceros*, famous for its reputed role in the evolution of woody land plants. Broad dense mats of *Gunnera* spread across the sterile mud, assisted by the presence of nitrogen-fixing blue-green algae in its leaves. Masses of the attractive herb *Jovellana* (New Zealand's *Calceolaria*) grew on the wet slip faces, a rare plant, here at its most northern location yet flourishing in an unstable environment.

In these wet places, tutu (*Coriaria arborea*) comes into its own. Much maligned because of its poisonous leaves and honey (derived from the exudates of the introduced passion vine leaf hopper rather than nectar from the flowers), tutu is perfectly adapted to colonising wet slips. Its roots bear coralloid roots which contain fungal-like bacteria called Actinomycetes (genus *Frankia*) which turn nitrogen gas from air into nitrates for protein synthesis. It is capable of greater productivity than most other New Zealand trees and builds soil quickly through a continuous supply of short-lived leaves and branches. At Rangitukia dense thickets of pure tutu occupy old slip faces, bright green slashes in the more sombre kanuka canopy. Several types of tutu can grow together, small creeping forms mixing with the semi-herbaceous 'tree' forms. In fact, one species of tutu is found nowhere else but on Hikurangi itself. I can think of no more appropriate place to use the virtues of tutu than Tairāwhiti. With his awareness of mycorrhizal and nitrogen-fixing associations between plants and other organisms, Michael had obviously come to the right place.

High in the hills we came across an old house site, only the chimney and totara piles standing within a dense thicket of the 'famine plant' Elephants Ear (*Alocasia brisbanensis*) introduced perhaps via the Pacific from Australia, and while resembling taro, being of very little value as food. However its presence reminded me of a former prosperity when people lived on this land, children like lambs, were born and grew up. Today the hearth is cold and the lambs seldom escape the wild pigs who leave the inside-out lamb skins empty beside the rushes. I imagined the fury of Murphy's pigs in this quiet, abandoned place. We met some pig-hunters, and again I was uneasy about being on their land. "Seen any?" "No. Plenty of sign though!"

We make a welcome entrance into the bush, surrounded by regeneration, listening to the trickling water purified by the forest floor. On the upper slopes the water is clear, but as we descend and the streams enlarge, the water gradually becomes milky with sediment. Even in very light rain a constant supply of sediment moves along the stream and the rocky bed becomes invisible a short distance below the source. The habitat value of such a stream is negligible. As an eel would, so we have to feel our way blindly through the opaque water, and the old name Tunanui loses some of its meaning in these modern days of ecological adjustment.

Stable riparian vegetation is essential in these areas and re-establishing a network of riparian forests along the streams is a high priority for restoration. All of the bush species grow in riparian zones, some of them, like the spectacular Tairawhiti native brooms, specializing in this habitat. Riparian plants grow faster because of the moister, more nutrient-rich, and better drained, soil. We should take a lesson from nature and start restoration where it is easiest - along the moist gullies, streams and valleys. I left Rangitukia with the words of wisdom of Bill Chisholm manager of the erosion ravaged Molesworth Station for most of his working life: "When it comes to revegetation, be patient."

Michael and Susan worked with the Ngati Porou at the nursery until the wind blew the shade house over, and exhaustion hastened a return to more sympathetic land in Nelson. Since then I have awaited more 'official' news of action to restore the eroded land. Some have called it an international disaster and sought international funding. Others have called for wholesale retirement and reforestation with pines using government money. I believe in Michael and Susan's approach - direct, small scale action, using the green dollar to train people to help themselves. In their short stay in Tairawhiti there were quite a few memorable achievements -

- they set up a nursery employing local people
- they started revegetation trials for longer term monitoring
- they helped to establish the East Cape Restoration Project which interlinks tree people with tangata whenua and other land owners
- they spoke at conferences about the needs of the region
- with the Department of Conservation, they started a magazine "Conservation Quorum", a mouth-piece for environmental concerns throughout Tairawhiti
- and they brought people in, like John Elliffe and me, to see for ourselves what was needed, and make us ask ourselves what we could do.

I think what they did was right. Sure they were pakeha crossing the troublesome water onto maori land. But they brought the issue home, to a local community and they opened a door to employment and training. They brought missionary zeal and ecological knowledge. They were an example and they laid their security on the line to help a small piece of Earth in trouble. They exposed themselves by thinking small, not a grandiose scheme to get stuck in the mud of inertia, but with a few people in a tiny valley. They began what may end in a miracle. They parted the cloudy waters and exposed the pathway to follow.

What is the most important thing to restoring Tairawhiti? It is people, it is people, it is people.