

**UNDER** the Resource Management Act 1991  
(RMA)

**IN THE MATTER OF** Proposed Canterbury Regional Policy  
Statement (PCRPS) 2011

**AND**

**IN THE MATTER OF** a submission by Te Rūnanga o Ngāi  
Tahu

**SUBJECT** Submission and Further Submission on  
PCRPS

## **STATEMENT OF EVIDENCE OF IAEAN CRANWELL**

**Ko te pū, Ko te more, Te Weu Aka  
Ko te rea, Ko te wao, Kukune whe  
Ko te kore ko te pō ko Rakinui, Papatūānuku Ūkaipō  
Ka tau te parawhenua, Hua parawhenua!**

**Ka tau anō te mauka, Ko Te Ūpoko o Tahumatā  
Ka titiro ki Wairewa, Ki Waihora ki Te Pātaka  
Te toka tapu ko te Ahu Patiki, Ō tū kai taua Tūmataueka**

**Ko Rākaihautū  
Ko Irakehu  
Ko Mako tēnā  
Tīhei Mauri Ora!**

### **He Kupu Whakataki - *Introduction***

1. Tēnā koutou, my name is Iaeen Cranwell. For the last 7 years I have worked for Takuahi Research & Development Ltd. Takuahi Research and Development Ltd is a charitable company, and a subsidiary company of Te Kete o Wairewa (Wairewa Rūnanga Incorporated Society is the sole shareholder of Te Kete o

Wairewa). The main focus of Wairewa Rūnanga is the rehabilitation of Te Roto o Wairewa and the mahinga kai species as the primary environmental, cultural, spiritual, and economic issues. During this time most of my work has focused on the environmental area, including protecting our cultural values in and around Te Roto o Wairewa (Lake Forsyth). I have been the leader of the Cultural Heritage and Identity Portfolio for Wairewa Rūnanga for 11 years and team leader for the Natural Resources portfolio for 8 years.

2. Today I will be speaking on behalf of Wairewa Rūnanga. Wairewa Rūnanga is the administrative and legal body of Kāti Irakehu and Kāti Makō, which are the Ngāi Tahu hapū (sub-tribes) that has manawhenua (tribal authority) over Wairewa and its surrounding takiwā. The boundaries for Wairewa Rūnanga centres on Wairewa and the catchment of the lake Te Roto o Wairewa and the hills and coast to the adjoining takiwā of Koukourārata, Ōnuku and Taumutu Rūnanga.
3. I've been asked to present evidence on the importance of the landscape in and around Te Roto o Wairewa to Kāti Irakehu and Kāti Makō and to reflect the work that we have been doing to restore and rehabilitate the lake and its surrounding areas. My evidence today will focus on how we have made Te Roto o Wairewa our primary environmental, cultural, spiritual, and economic focus and these issues are of immense cultural and traditional significance to us.
4. The evidence I will present today is:
  - A brief overview of the Ngāi Tahu history of Wairewa
  - The importance of mahika kai and the tuna fishery at Wairewa
  - Impact of deforestation of native forests, sedimentation build up, algae blooms on Te Roto o Wairewa
  - The work of the Rūnanga to restore Te Roto o Wairewa
  - Development of a Mahika Kai Cultural Park
  - Protection of our archaeological sites
  - The importance of the cultural landscapes to Wairewa Rūnanga

5. Kaitiakitanga is a term that is used widely throughout the environmental field. This is a kaitiaki responsibility that I have inherited from my kaumātua, Taua Naomi Bunker, Pōua John Panirau and Montero Daniels. There are many definitions for Kaitiakitanga. It is intergenerational, and in this context it can be briefly summed up as owning the right and responsibility for us of today, to care and look after our environment handed to us by our ancestors of yesterday for tomorrow's generation – our children and grandchildren thereafter – past, present, future.

### **Overview of the Ngāi Tahu History for Wairewa**

6. The Waitaha were the very first people to settle Te Waipounamu. When the canoe Uruao made landfall in the Marlborough district their leader, Rākaihautū, dug three pools in the soil of this newfound land. These pools were a prophecy and foretold what the island would offer – Puna Waimaria, Puna Hauaitu, Puna Karikari. The Lakes of Bounty, Lakes of Glacial Water and the Lakes Dug by the Hand of Man. Rākaihautū explored the land whilst his son Rakihouia, lead another party in the Uruao waka along the eastern coastline of Te Waipounamu. He created and named several lakes and waterways from Rotoiti in the north to Waihola in the south and he eventually travelled the Canterbury Plains to settle upon Banks Peninsula. His final lakes were Te Waihora (Lake Ellesmere) and Te Roto o Wairewa (Lake Forsyth), carved out before the Waitaha settled in Akaroa Harbour. Overwhelmed by the magnificence of his artistic endeavours Rākaihautū decided to stay driving his digging stick, Tūwhakaroria deep into the ground above Akaroa where it became Tuhiraki. As a testament to his work and in recognition of the abundance and variety of food and other resources found on the Peninsula up until quite recently, the people named the area Te Pātaka o Rākaihautū or the great food storage house of Rākaihautū.
7. According to tradition when Makō our eponymous ancestor, younger brother of Marukaitātea (Kāti Kurī Chief) and important figure in Ngāi Tahu history claimed the takiwā of Wairewa. He did so at gathering of rakatira in Kahutara south of Kaikōura, under the mana of his older brother. This gathering was held so that the rakatira could hear first-hand the reports from Kaiapū and Tamakino who had escaped to return overland from a disastrous battle against Kāti Māmoe in

Southland. The two escapes were outlining the mahika kai they had seen on the way back. When it came to Wairewa, Makō asked the pair what food is available there. They replied “There are many kinds’ weka, kaka (parrots), kererū, pūtakitaki (ducks) and tuna (eels)”. When Makō heard this he said.

*“Ki uta he uruka mō tōku ūpoko, Ki tai he tūraka mō ōku waewae”*

Inland a pillow for my head and on the shores a rest for my feet.

8. This was a direct reference to the abundance of kai in the forests, lake and sea and by stating this Makō effectively placed a tapatapa (claim) on the takiwā for himself, his family and their descendants.

### **Coastal Landscape**

9. The coastal lakes and lagoons encountered by the Waitaha were a unique feature of Te Wai Pounamu and are remembered in tradition as Kā Puna Karikari o Rākaihautū – The Lakes Dug by Rākaihautū. The meeting of inland fresh waters off the Canterbury Plains with strong tidal flows on Te Waipounamu’s eastern seaboard has created a series of hāpua (lagoons), coastal lakes and estuaries. The conflict of fresh and ocean waters in a shingle environment created narrow barrier beaches and spits that became the perfect place for early habitation.
10. The earliest Polynesian settlements uncovered in Te Waipounamu are found in this environment. Small, extended family villages set in the lee of dune systems alongside these hāpua can be dated back 1,000 years with the Wairau Bar discoveries perhaps being most notable, along with settlements along Kaitōrete Spit. One can imagine the early arrivals using these downstream base camps for access to the seasonal mahika kai resources. Weka and moa could be rafted downstream from the inland plains whilst the eels, flounders and whitebait could be captured in the slow moving lagoon waters.
11. Over time specific knowledge grew as how best to manage the waterways and fisheries within these systems. Blind drains, or kōumu, were dug into the shingle tongue that separates the lake from the sea. Fish would be herded or swim up

the drains where they could be trapped or harvested by several fishers standing on the edge of the drains. This is very similar to the fishpond practices of Hawaii even though it developed here quite independently as a response to the unique environment.

12. It seems that Māori knowledge of seasons and species and their interaction within these coastal water systems was such that fresh water/ocean water flow was, from time to time, deliberately managed. At certain times of the year releasing waters through the shingle tongue allowed for the movement of particular species in to the lake system or out to the ocean. The knowledge of this management practice built up over 1000 years and continued through until well after European occupation.
13. Originally Te Roto o Wairewa was a hāpua or estuary. In the late 1800's, alluvial drift caused the lake to close with a shingle bar. Up until this time evidence would suggest that the lake was fished by a variety of means throughout the year including the heke (seaward migration). The permanent closure of the lake meant that traditional practices and methods required modification. The practice of digging drains into Kaitōrete Spit to harvest tuna during the seasonal heke was a practice used extensively at Te Waihora (Lake Ellesmere). It is assumed that this was applied to Te Roto o Wairewa as a response and solution to the lake's closure. Over time, a new set of practices has evolved that has meant that harvesting tuna at Te Roto o Wairewa is solely during the heke and via drains dug into the shingle bar.
14. The abundance of kai in the lakes Te Waihora and Te Roto o Wairewa were legendary across Ngāi Tahu as well as other iwi. The traditional settlements of Ōhiriri, Ōtawiri, Waikākahi, Taumutu and Ōrariki are recorded in the whakapapa as being places of food and in fact, Makō, the fighting chief, claimed Wairewa as his own because of the mahika kai food resources available.
15. The produce of these lakes were a source of mana and pride. It allowed the people to sustain themselves and their visitors. It also allowed food to be carried to other villages in kai-hau-kai, traditional food exchanges. This is also why Makō

and his descendants stayed in this landscape, and occupied different pā sites including Te Mata Hāpuku, Ōruaka, Ngutu Piri, Marokura Nui, Waikakahi and Te Puia. Poutaiki and Ōtūngakau are two principal urupā associated with Te Roto o Wairewa.

16. There are place names connected with Wairewa which evoke earlier histories. One example is the mountain which Wairewa Marae lies in the lee of, Te Ūpoko o Tahumatā. This name refers to the Ngāi Tahu ancestor Tahumatā who lived and fought in Hawkes Bay. It is also special as it is the mauka (mountain) we use in our pepeha (tribal saying), which gives us our sense of place, our sense of belonging to the landscape. as outlined below.

*Ko te Ūpoko o Tahumatā te mauka*  
*Ko Ōkana te awa*  
*Ko Wairewa te roto*  
*Ko Uruao te waka*  
*Ko Makō te whare tupuna*  
*Ko Te Rōpūake te whare kai*  
*Ko Kāti Irakehu, Kāti Makō kā hapū*  
*Ko Waitaha, Kāti Māmoe, Kāi Tahu kā iwi*  
*Nō Wairewa ahau*

### **Importance of Mahika Kai and Fisheries**

17. In 1868 Ngāi Tahu were awarded the 'Fenton Reserves' by Judge Fenton, Chief Judge of the Māori Land Court. These reserves were to provide access for Ngāi Tahu to important waterways so the iwi could continue to exercise the traditions of mahika kai. The original reserves have since been severely degraded due to drainage, pollution and natural watercourse changes thus reducing their value as mahika kai. Mahika kai has always been a fundamental aspect of Ngāi Tahu existence. The records indicate that in the 1880s there were between 2000 and 3000 places of significance where food was gathered. These have dwindled dramatically over the years, as was clearly highlighted in the 1991 Ngāi Tahu Treaty of Waitangi claim. Wairewa in particular was renowned for its mahika kai, but this is no longer the case. Traditionally the Wairewa mahika kai resources

were regarded as one of the central food baskets of Ngāi Tahu in the Canterbury region and as mentioned previously the area of Banks Peninsula was known as Te Pātaka o Rākaihautū (The Storehouse of Rākaihautū).

18. Tuna have been a major source of mahika kai for us at Wairewa and we have persisted with the cultural practice of harvesting tuna for centuries. Tuna were, and continue to be, the principal source of mahika kai. Other kai included inaka (whitebait), pātiki (flounders), aua (yellow eyed mullet) and kahawai.

### **Lake sedimentation and previous forms**

19. Te Roto o Wairewa has not always been a shallow fresh water lake. Changing sea levels, growth of Kaitōrete Spit and changing land use in the catchment have all contributed to alterations in the lake form. The sedimentation has increased due to forest clearance, wetland drainage, pest and weed incursion, and the intensification of land use have had major effects on both terrestrial and aquatic environments. The land cover and land use within Wairewa catchment has changed dramatically over the past 150 years. This has increased the nutrient content in the sediment, namely nitrogen and phosphates.

### **Water quality of the lake**

20. The increase in nutrients, along with a shallower lake has made the lake highly eutrophied with extreme water quality problems. The most severe problem is the summer blooming of *Nodularia Spumigena* (blue green algae). The cyanotoxin, *Nodularia R* that is produced when this algae blooms is deadly to humans, livestock and pets. The water may look safe but it isn't. Livestock and dogs have died previously from drinking water from the lake and we don't want this happening to people who live near the lake – or to visitors to the area. Over the past years not one of the statutory agencies involved in the lake have suggested or implemented any initiatives to rectify this situation

### **Tuna Population Declining**

21. Te Roto o Wairewa is the only Ngāi Tahu Customary Lake in the South Island. Famous throughout Ngāi Tahu for the quality and quantity of its food resources known collectively as mahika kai. Recent research undertaken by Dr Don

Jellyman (NIWA) into the lakes tuna (eel) population and distribution within the lake showed that this widely renowned fishery is in critical decline. This is due to erratic Elver recruitment caused by a number of factors initiated principally by the closure of “Wairewa the estuary” by encroaching gravel deposits transported along Kaitōrete Spit. This closure to the Pacific Ocean 1880’s (circa) triggered a number of environmental and cultural changes. In particular the decline of fisheries across the board, the eutrophication of the lake leading to the emergence of *Nodularia Spumigena*, the build-up of silt on the lake bottom. Most importantly it led to a regime of mechanical openings of the lake by successive statutory authorities to prevent flooding of the new settlement at Little River, farmland adjacent to the lake and road access. Lake levels have also been associated with the discharge of faecal chloroform into waterways from poor sewerage infrastructure at Little River.

### **Opening of Lake**

22. The mechanical opening regime was a stop gap measure initiated after the government considered that costs for the preferred option of creating some form of permanent opening were prohibitive. Since then this regime has been in place without recourse to cultural, social or environmental considerations.
  
23. Based solely on arbitrary trigger levels the lake is currently opened mechanically by diggers. This regime is unacceptable to Wairewa Rūnanga and Ngāi Tahu. The Waitangi Tribunal recommended in respect of Te Roto o Wairewa that a management plan be prepared, involving Ngāi Tahu as part of the decision making process along with the Department of Conservation, Regional Authority, Ministry of Agriculture and Fisheries, for the improvement of the water quality, with the Crown providing the same resources as recommended in respect of Te Waihora.
  
24. This never happened but even if it did it is doubtful that a conventional management plan is what was needed. To save our lake action is required. In respect of the tuna fisheries the clock has been ticking for decades. Due to the increasing barrier beach at Kaitōrete Spit, the young Elver have been unable to enter the lake in the quantities required to sustain the fishery. On top of this, the



rich nutrient signature that for centuries flowed into the ocean and acted like a beacon to attract the Elver back to what was once a hāpua is absent for the same reasons.

25. In 2000 Banks Peninsula District Council approached Wairewa Runanga with a view to renewing the R.M.A Consent. Negotiations took place and it was agreed that the forthcoming consent be put on hold. This gave Wairewa Rūnanga and Ngāi Tahu an opportunity to apply for consents to experiment with the potential of a canal and a hard opening to the sea that provided better lake level management options and more culturally, environmental, socially and economic outcomes.

### **Permanent Opening**

26. In 2006, the Banks Peninsula District Council was amalgamated with the Christchurch City Council (C.C.C). The statutory responsibility for managing Te Roto o Wairewa lake levels was assumed by C.C.C. Wairewa Runanga had clearly demonstrated a commitment to implementing a solution. This solution involved testing the feasibility of reinstating the permanent opening to the lake as a means to harnessing the available natural energy and allowing the lake to breathe again. The permanent opening will be protected by a rock groyne structure and the opening connected to the lake via a canal.

27. In 2008 resource management consents were granted to Wairewa Runanga to undertake experimental work over a 5 year period. In 2009 discussions between CCC and Wairewa Runanga centred on a MoU between key stakeholders and the potential for a joint 35 year resource management consent for the management of the lakes water levels between CCC and Wairewa Rūnanga that included the new Rūnanga infrastructure.

28. One of the critical components of our project is the revitalisation of Te Roto o Wairewa fisheries. After all, this is a principal reason our tipuna settled here. By reconnecting the food chain we aim to attract the fish back to our takiwā. By providing permanent passage into the lake the fish will be able to undertake their normal life cycles and recruitment of our valuable Elver will be secure. By

providing a permanent connection to the sea we can control our environment and discharge nutrients (fish food) into the Kaitōrete Bight thereby maintaining the consistent food source required to fuel this process. Feeding the Bight (Kaitōrete Bight) or feeding the table of Takaroa is the ultimate aim. By giving away what we create (controlled discharge of food) we believe it will return tenfold.

29. In 2010, ECan the consenting authority granted CCC a 2 year extension before it applies for a new consent to continue opening the lake. This 2 year extension corresponds with the expiry of the Runanga experimental consent. The Rūnanga and CCC are now working together to gather the relevant information required for a Joint Consent to proceed as there are limited opportunities with regard to openings

30. These consents expire in 2013. We are required to lodge an extension to these consents or lodge consents for a permanent structure to ECan by July 7th 2012. Either way this is critical and involves gathering the right information and the right experts to ensure the most positive outcome for the lake, our fisheries and members. We are currently working with a number of people to bring this together in the time frame and this is inextricably linked to the potential joint consent with CCC.

### **Mahika Kai Cultural Park**

31. As part of a vision to establish a Mahinga Kai Cultural Park, Wairewa Rūnanga have identified rehabilitation of Wairewa and mahinga kai species as the primary environmental, cultural, spiritual, and economic issue. While the overall concept involves integrated management of the whole catchment, understanding the extent and well-being of the tuna resource is seen as an essential first step of this vision.

32. This project has not been approached lightly; rather it is part of our overall vision to implement the Wairewa Mahinga Kai Cultural Park on a grand scale where the lake is the undisputed centre piece. It includes our Mātaitai that have been strategically placed to protect our interests once the fishery returns.

33. Although the solution is simple and has its roots in Roman type engineering, the scale of the work and some of the science and engineering is complex. However the drivers are cultural, environmental, social and economic outcomes. Almost six years in the planning we have now taken physical steps to put in place the infrastructure to allow our only Customary Lake to breathe again.
34. This is already beginning to happen. During the canal opening in October 2011 good quantities of inaka were caught in our canal. In addition and perhaps more importantly copious amounts of krill phytoplankton (fish food) were also caught in the fishers' nets. The discharge plume was tinged orange and red with krill and spread from the canal opening out to sea and up and down the coast. Surf cast fishers reported better than normal catches and the elephant and rig fishery has been better than most fishers can remember, with some decent specimens being caught. Locals reported good flounder catches in the lake and there were a number of sea run trout observed. Further up the lake the sea gulls were working on smelt.
35. Therefore this has shown that Wairewa Rūnanga has taken responsibility for the degraded takiwā and put in steps to restore not only the fishery, but also the surrounding takiwā and landscape.

### **Birdlings Flat**

36. Birdlings Flat is a known area of archaeological significance related to the early Waitaha, Kāti Māmoe and Ngāi Tahu occupation of the area. Te Mata Hāpuku Pā remains a traditionally important site of occupation and Ngāi Tahu economic activity. This site is of huge importance to Ngāi Tahu and is one of the only places in New Zealand where cultural material remains intact on the surface.
37. Te Mata Hāpuku Pā was still occupied in 1840 and two families were still living there in 1844 when Edward Shortland visited. In 1876 the Pā was sold mistakenly to Harry Johnstone for 20 pounds, even though it was surveyed, reserved & recorded as MR 1297, being 10 acres, but it was never gazetted.

38. The Provincial Government tried to buy it back in 1877, but Mr Johnstone asked for 5 times the original amount. In the same year he also claimed that Māori were trespassing on his land and was awarded 10 pounds. In 1882 the Government reserved 15 acres further inland on the lake edge, Te Pourua, away from Tuna drains and from the traditional fishing area.

39. In 1999 the Council re-zoned the land as residential and in 2004 a sub division was granted via non-notified consent, not enabling Wairewa Rūnanga to put in place processes to protect any remaining cultural significant sites.