



# Te Runanga o Toa Rangatira

## Transmission Gully Cultural Impact Report

July 2011



# Whakatauki

Toitu te Marae o Tane,  
Toitu to Marae o Tangaroa,  
Toitu to Iwi.

If the domain of Tane survives to give sustenance,  
And the domain of Tangaroa likewise remains,  
So too will the people.

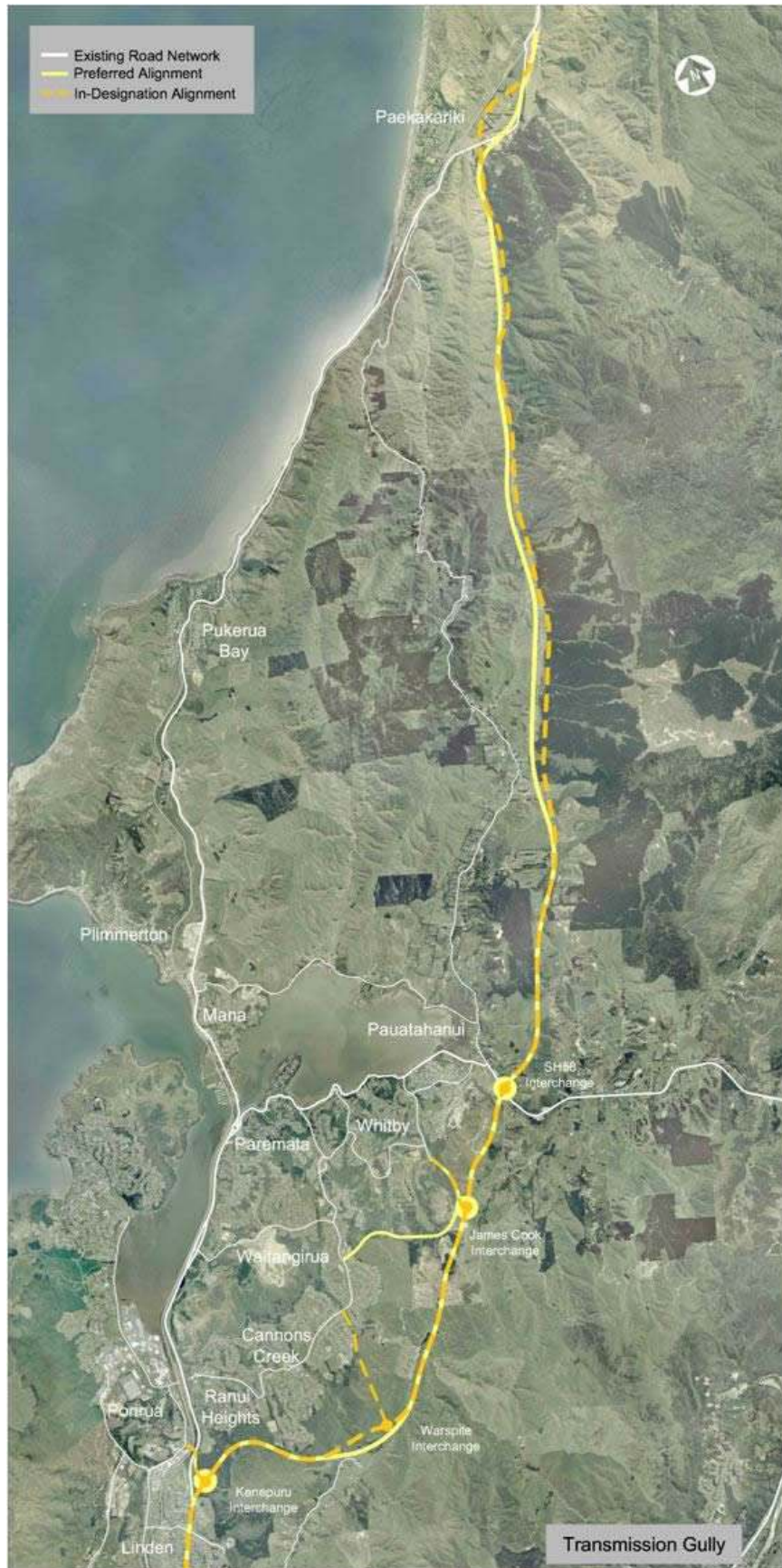


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## Introduction

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This report has been undertaken as part of the Transmission Gully Project. It provides an assessment of potential adverse cultural effects of both the construction and ongoing operation of the proposed Transmission Gully highway; and it proposes measures to mitigate potential or adverse cultural effects.

In order to allow for the construction and operation of the Transmission Gully project, parts of the existing electricity transmission line between the Pauatahanui substation at State Highway 58 and MacKays Crossing will need to be relocated. Transpower is seeking land use consent under the National Environmental Standards for Electricity Transmission (NESET) for the necessary relocation as part of the wider New Zealand Transport Agency (NZTA) project consent applications. This report also considers the potential adverse effects of transmission line relocation on cultural values.

The Transmission Gully Project requires the construction and operation of a state highway between MacKays Crossing and Linden. The proposed highway begins at MacKays Crossing and extends inland mostly through rural land, north of Paekaakaariki, across State Highway 58 at Pauatahanui and reconnects to State Highway One at Linden, south of Porirua. It is 27 km long and falls within the 'rohe' or traditional area of Ngati Toa.

At a strategic level, Ngati Toa supports Transmission Gully as a means of easing congestion along State highway One, while also protecting the coastal environment from further detrimental roading impacts. In our view, Transmission Gully will create significant benefits for the region by providing an alternative access to Wellington and the South Island, and by taking pressure off the coastal highway between Paekaakaariki and Pukerua Bay. It will also improve the security of the region's roading network in light of concern about the coastal highway being disrupted by a major storm or earthquake, as well as providing a long term sustainable solution to transportation along State highway One.

Nevertheless, Transmission Gully is a large scale infrastructure project that has the potential to cause significant adverse effects on the environment. The proposed alignment traverses an area of high cultural significance to Ngati Toa. Traditionally the forest, streams and harbours that characterised the area were used extensively by Ngati Toa for gathering food (e.g. fish and birds) and other essential resources, such as native plants for rongoa (medicine) and timber for building whare (houses) and waka (canoes). Although the vast majority of forest has been cleared and the streams and harbours have suffered significant degradation over the years as a result of the urbanisation of the catchment, there are still important cultural and spiritual values associated with the area, particularly in relation to the streams and harbours.

In addition, there are a number of waahi tapu (sacred sites) and areas of cultural significance in the vicinity of the proposed alignment which symbolise important events in our history and exemplify Ngati Toa's traditional relationship with the area. The preservation of these sites and cultural values is of paramount importance to Ngati Toa.

The report begins with a summary of the main historical events that established Ngati Toa as Tangata Whenua in the Cook Strait region. This provides the context for Ngati Toa's relationship with the Transmission Gully area, and for our concerns in relation to the project. The report then discusses the potential and actual effects of the Transmission Gully project on cultural values. Finally, it goes on to consider appropriate mitigation to address adverse cultural effects.

## Te Runanga o Toa Rangatira Inc

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This report has been compiled by Te Runanga o Toa Rangatira Inc on behalf of Ngati Toa Rangatira (Ngati Toa).

The Runanga is the administrative body of Iwi estates and assets, and deals with the political and public issues of national interest through the management of relevant activities such as Treaty of Waitangi claims, customary fishing activities, tourism, health and medical services, vocational training and resource management.

The overall vision of the Runanga is:

*“To promote the mana of Ngati Toa Rangatira by enhancing the social, economic, educational, cultural and spiritual development of all whanau members, in an open and responsive manner, by enabling them opportunities to attain their full potential for the benefit of the Iwi and the community.”*

In pursuit of this vision, the Runanga is responsible for protecting Ngati Toa’s customary interests and promoting the sustainable management of the environment within Ngati Toa’s tribal area.

The Resource Management Act represents one of the few avenues through which Ngati Toa can exercise some influence on environmental outcomes. It provides an opportunity (though very limited) for Ngati Toa to promote Kaitiakitanga or sustainable environmental management mainly through participation in council planning documents and the resource consent process.

This report is an exercise in kaitiakitanga as it provides the opportunity for Ngati Toa to assess the significance of cultural effects and to propose mitigation where necessary to ensure that the mauri (life force) of the natural environment is protected, and thereby the sustainable management of the environment is achieved.





# Ngati Toa Rangatira

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## Ngati Toa Origins and Migration South

Ngati Toa is a tribe belonging to the Tainui waka. The Iwi's eponymous ancestor was Toa Rangatira - a renowned chief who lived in the 17<sup>th</sup> Century. Ngati Toa's traditional homeland was at Kawhia on the coast west of the heartland of Tainui. However as a consequence of the pressure from our Waikato neighbours and the attractions of the Cook Strait as a place to settle and trade with the pakeha, Te Rauparaha led Ngati Toa in a historic resettlement from the Kawhia region to the Cook Strait. By 1840 Ngati Toa was established as the pre-eminent Iwi dominating the Kapiti, Porirua, Wellington and Te Tau Ihu (northern South Island) regions.

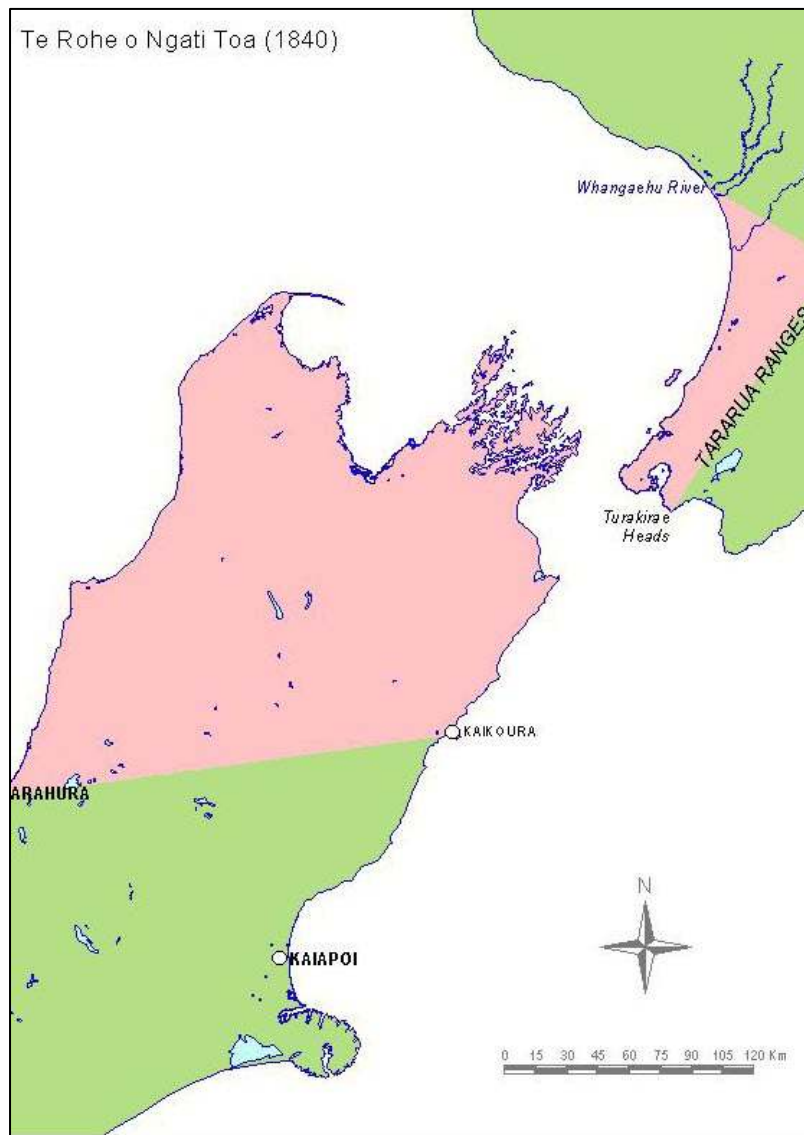
Ngati Toa held a maritime empire founded on a virtual monopoly of access to European goods and trade in the Cook Strait region. Ngati Toa possessed a de facto military and economic power that was widely recognised and acknowledged by both Maori and European. The Crown recently acknowledged this dominance in submissions to the Waitangi Tribunal and negotiations for the settlement of the Ngati Toa claim will address the loss Ngati Toa suffered as a result of Crown actions shortly after the signing of the Treaty.



## The Ngati Toa Rohe

Ngati Toa's rohe (tribal area) is traditionally described as being from Whangaehu in the north, the Tararua ranges to the east, south by Turakirae Heads to Kaikoura and west to Arahura, then returning to Whangaehu.

The rohe spans a large number of local authorities. It includes both rural and urban areas, as well as a diverse range of landscapes from the Manawatu plains to the Marlborough Sounds and the North Canterbury high country. It is also important to understand that Ngati Toa's rohe is not solely focused on the land, but that the waters of the Cook Strait are at the heart of the rohe and are as integral to our association with this area as the land.



# Ngati Toa's Customary Rights

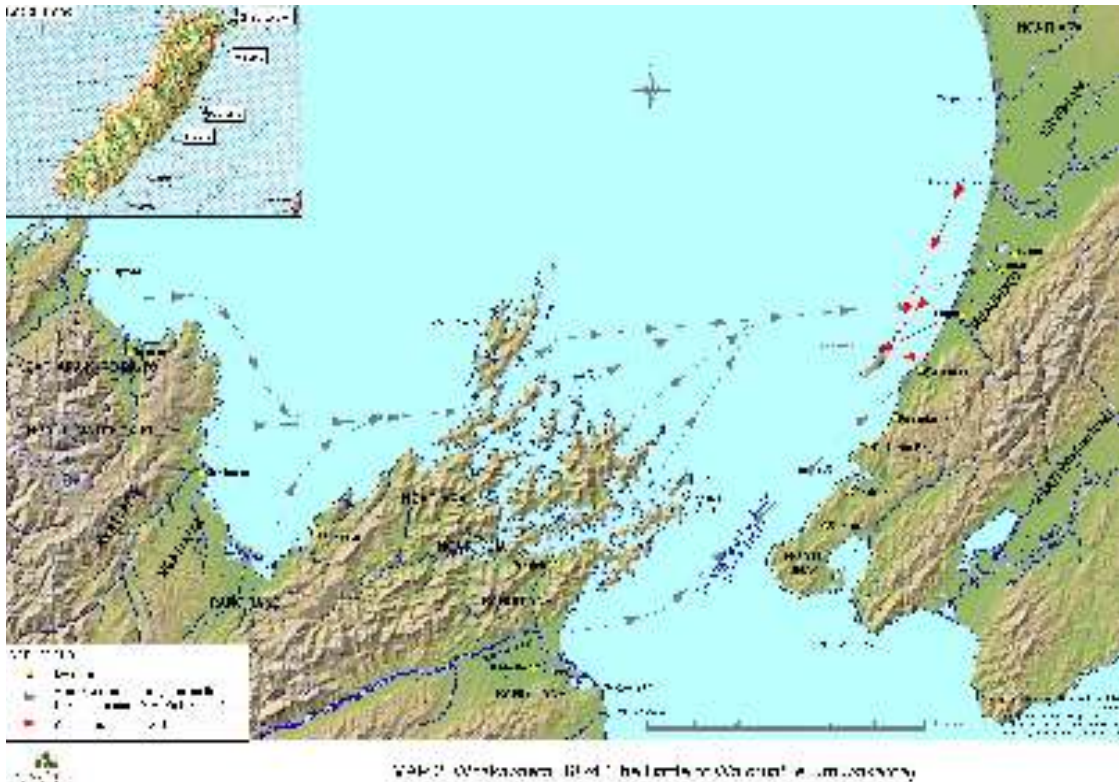
## Customary Rights

Ngati Toa's customary rights within the rohe derive from two tikanga (or customary law) principles of raupatu and ahi kaa.

### *Raupatu*

Rights through raupatu or conquest arise from a number of key incidents that clearly show that Ngati Toa subdued the iwi who were present in the rohe and as a result obtained rights through raupatu.

The key event marking the definitive establishment of Ngati Toa in the Cook Strait area was the Battle of Waiorua on Kapiti Island in 1824 where Ngati Toa defeated a combined allied force of the Kurahaupo tribes. This defeat was followed by a series of other battles which saw Ngati Toa clear any resistance to their settlement from other iwi from Whangaehu to Te Whanganui-a-Tara (Wellington) as well as to areas in the South Island.



## *Ahi Kaa*

By the 1830s Ngati Toa held over-arching rights in the Cook Strait area. The strategic importance of the Cook Strait became apparent to Te Rauparaha during a preliminary scouting expedition to the region in 1819. While visiting the south west coast, Te Rauparaha noticed a trading ship passing through the Cook Strait which highlighted its importance as a highway for trade and the importance of coastal areas including Porirua, Pukerua and Kapiti as vantage points and nodes of access.

Control of access to Wellington's south west coast, the Kapiti Coast and Porirua was key to maintaining Ngati Toa's Cook Strait empire. Professor Ward, one of New Zealand's leading historians, acknowledged the wide influence of Te Rauparaha's mana in evidence before the Waitangi Tribunal when he stated that:

*“actual occupation and cultivation of land, nor even the specific fishing rights that whanau and hapu developed, do not fully encompass the kind of authority Te Rauparaha had from his control of access to harbours and seaways.”* (Professor Ward; Brief of Evidence for Waitangi Tribunal Hearing (Wai207), 9 June 2003, p13)

Ngati Toa was determined to maintain control of their trading empire in the Cook Strait. To do this, it was necessary for them to follow up their conquest with rights of ahi kaa. Ahi kaa literally means to keep the home fires burning and recognises the idea that it is not enough to simply conquer an area but that the conquerors must also retain a presence there.

## *Transmission Gully*

Ngati Toa exercised ahi kaa in relation to the Transmission Gully area mainly through the customary use of resources. The predominant forest cover throughout the area supported an array of native plants that were gathered for rongoa (medicine) and kai (food). Timber was another important resource obtained from this area and was used mainly for building whare(houses) and waka (canoes). The extensive network of streams supported large populations of native fish and were highly valued by Ngati Toa as important mahinga kai (food resources). The Pauatahanui Inlet and Porirua Harbour also sustained an abundance of fish and shell fish species that formed an essential part of Ngati Toa's diet.

Thus, the Transmission Gully area was highly valued by Ngati Toa for subsistence purposes. It was not favoured as a place for occupation, although important Ngati Toa settlements were located at either end of the proposed alignment; at Whareroa in the north and Porirua in the south. The focus of Ngati Toa settlement was in coastal locations such as Wainui (Paekaakaariki),

Pukerua, Taupo (Plimmerton), Paremata and Porirua. The environs of the Pauatahanui Inlet and Porirua Harbour also provided attractive locations for settlement and facilitated access to the coast for fishing and the gathering of kaimoana.

There are also a number of waahi tapu and other sites of cultural significance in the vicinity of the proposed alignment that reflect the importance of Ngati Toa's traditional relationship with the area. Of particular note are Matai Taua Pa (the site of present day St Albans Church) and Battle Hill which symbolise the turbulent history between Ngati Toa and the Crown. The Pauatahanui area was the focus of the Crown's military strategy to undermine Ngati Toa's rangatiratanga (authority) which resulted in the alienation of most of Ngati Toa's land, including the Transmission Gully area (discussed in more detail below).

### Crown strategy to undermine the Ngati Toa Polity

Ngati Toa's control over the Kapiti and Porirua districts, and dominance throughout the Cook Strait region, continued until the Crown intervened with military force. Ngati Toa were perceived as a military and economic threat by the Crown, especially after the Wairau Affray in 1843 – caused by the illegal actions of the Nelson magistrate – and eventually Governor Grey set in place a deliberate policy of coercion in order to bring Ngati Toa hegemony to an end.

This programme involved a number of aspects. Following a classic “divide and rule” strategy Governor Grey persuaded some iwi to aid the Crown against Ngati Toa. Forts were built in Wellington, Karori, Hutt Valley and a blockhouse at Paremata. In a combined sea and land military operation in 1846 Grey captured Te Rauparaha from Taupo Pa in Plimmerton and Pauatahanui was attacked in a two-pronged campaign by Crown forces.

Te Rangihaeata made his last stand at Battle Hill but was eventually forced to retreat and was then pursued north through the bush to Poroutawhao (near Levin) where he remained in exile. Te Rauparaha was taken captive and held prisoner on board a ship for some months before he was taken to Auckland where he was detained until his eventual release. One chief captured at Pauatahanui was publicly hanged at Paremata barracks and others were transported as felons to the British penal colony in Van Diemen's Land (Tasmania).

Without the leadership of Te Rangihaeata and Te Rauparaha, Grey continued to pressure Ngati Toa for land and eventually a few of Te Rauparaha's nephews reluctantly agreed on the promise that Te Rauparaha would be released from custody. However this never happened and Te Rauparaha continued to be detained for 18 months without ever being charged or brought to trial.



## Continuous Presence

Despite the Crown's military action against Ngati Toa which left the Iwi in a state of virtual landlessness, Ngati Toa has continued to exercise customary rights within our traditional rohe to the present day. This has occurred mostly through the customary gathering and use of resources, including those found in the vicinity of Transmission Gully, and the exercise of kaitiakitanga in promoting the sustainable management of the environment.

## Key Findings of the Waitangi Tribunal

Ngati Toa's assertion of customary rights throughout the Wellington region (including Transmission Gully) is supported by the findings of the Waitangi Tribunal in its report on the Wellington District (Te Whanganui a Tara me Ona Takiwa, 2003). The Tribunal agreed that Ngati Toa had mana through ahi kaa in the Porirua basin, parts of Ohariu, part of the Hutt Valley and parts of the south west coast. It also agreed with Ngati Toa's assertion of mana through raupatu, giving Ngati Toa unique status and rights throughout the rohe. Ngati Toa has rights over land (anywhere in Port Nicholson) where no other group had ahi kaa. This essentially means, that even though Ngati Toa may not have occupied an area, the Iwi still held paramount rights and control over the entire region.

In respect of Crown actions, the Tribunal made a number of important findings in support of Ngati Toa's claim. In particular, the Tribunal found that the Crown took deliberate steps to undermine Ngati Toa's rangatiratanga (for example, by detaining Te Rauparaha and forcing Te Rangihaeata into exile), and that the diminution of Ngati Toa's power and control was the result of Crown policies aimed at controlling and limiting Ngati Toa's power. These and other historical grievances are the subject of current negotiations with the Crown for the settlement of Ngati Toa's Treaty claim. Negotiations are in the final stages and a Deed of Settlement is expected to be finalized by the end of the year.

# Cultural Effects

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## **Kaitiakitanga**

Over centuries our ancestors evolved a system of environmental management, Kaitiakitanga, to ensure the sustainable use of resources and protection of waahi tapu (sacred sites). Kaitiakitanga is based on Maori views of the world and its origins, and the principle that everything is interrelated and interconnected by whakapapa (or genealogy).

Mauri is the life force that exists in all things in the natural world. Tikanga or customary practices are followed in order to protect mauri. These are largely based on spiritual notions such as tapu (sacredness) and rahui (temporary restriction), both of which imply some form of prohibition. The primary objective of Kaitiakitanga is to protect the mauri of all natural resources in order to ensure environmental sustainability.

Thus, it follows that our main objective in considering the cultural effects of Transmission Gully and the transmission line relocation project is to ensure that mauri is protected. This is particularly important in relation to freshwater and coastal resources which have significant cultural and spiritual qualities that must be respected. Freshwater bodies are regarded as the life blood of Papatuanuku and the coastal environment is an important mahinga kai (food resource). The potential loss of mauri, particularly in relation to the streams and harbours, is a significant issue for Ngati Toa and is carefully considered below.

In addition to the preservation of mauri, we are concerned to ensure that waahi tapu and other important areas of cultural significance are protected; and that mahinga kai (food resources) and natural resources used for customary purposes are maintained and, where possible, enhanced. These are the key outcomes that we believe need to be satisfied in order for the Transmission Gully project to be sustainable in cultural terms. These key outcomes provide the context for our assessment of cultural effects presented below.

## **1 Sediment**

The construction of Transmission Gully will require the excavation of six million cubic metres of material along the route which has the potential to cause hugely detrimental effects to the environment. Our primary concern is for the protection of the stream and marine environments from sediment contamination which undermines water quality and habitat values, thereby causing detrimental effects to the mauri. These environments will be at particularly high risk during

construction when silt and soils from areas of open ground can be carried into waterways during rain events.

We also have concerns in relation to the potential for further contamination once the road is operational and stormwater discharges can transfer contaminants (including sediments) from the road surface to the catchments, thus potentially affecting downstream water quality.

Extensive earthworks will also be required within streams where culverts, bridges and realignments are proposed. These activities have the potential to generate significant adverse effects on stream environments and cause downstream effects on the Pauatahanui Inlet and Porirua Harbour.

In addition, the relocation of existing transmission lines running through Transmission Gully is a necessary consequence of the Transmission Gully project. However, the earthworks associated with relocating the towers and the construction of roads required to access the towers has the potential to cause adverse effects through sediment contamination of streams and harbours.

#### Sediment discharge to streams

In our view sediment discharge into freshwater systems, during both construction and operation, has the potential to cause the most significant impacts of the entire proposal. Streams and waterways comprise the largest areas affected and they sustain the most sensitive habitats and species.

In total, seven streams are affected by the project but the Te Puka, Horokiri and Waiohata (Duck Creek) appear to be the most at risk. The alignment travels parallel to and within 100m of these three streams for at least 50% of their length. Therefore the likelihood of sediment discharge to streams and downstream effects on the marine environment is very high.

#### Whareroa Stream

The results of the stream modelling undertaken by SKM show that only the Whareroa Stream will be affected by significant sedimentation due to road construction. This is a very positive outcome for all other streams which show little or no increased sediment deposition when the construction scenario is compared to the baseline. However, the risk of sedimentation of Whareroa Stream if an extreme storm event (e.g. 50 year storm) was to coincide with peak construction in the vicinity of Whareroa Stream, is a concern for Ngati Toa. In this scenario, significant sedimentation would be unavoidable and important cultural values, including the mauri of the stream, would be detrimentally affected.



We are concerned to ensure that every precaution is taken to avoid this situation from occurring as Whareroa Stream has important cultural values that need to be recognised and protected. The area comprising Whareroa farm and Queen Elizabeth Park was traditionally an important area of subsistence and settlement for Ngati Toa (and other Taranaki iwi). Queen Elizabeth Park has been included as cultural redress in the Crown's offer to settle Ngati Toa's Treaty claims, and Whareroa Stream discharges to the Kapiti Coast via Queen Elizabeth Park. Therefore it is imperative that the risk of sediment contamination of Whareroa Stream during construction is minimised as far as possible.

### Cultural significance of streams

The cultural importance of Whareroa Stream is noted above, however it is important not to lose sight of the fact that all the streams affected by the project have cultural significance. They were all traditionally important mahinga kai or food resources for Ngati Toa and even today, in spite of the degradation of the catchment over the years, the streams continue to sustain important habitat for native fish populations.

Ngati Toa still gather eels and inanga from the Horokiri and Pauatahanui streams and sometimes from the Waiohata (duck Creek), although the scarcity of kaiawa means that it no longer forms an essential part of our diet. Nevertheless these streams still retain important cultural values which must be protected.

### Sediment discharge to the marine environment

Although sediment will be entering the major streams initially, it is the marine environments, and particularly the Pauatahanui Inlet, that will end up receiving most of the sediments leaving the construction site. We are extremely concerned about the impacts of increased sedimentation on the mauri of the Inlet, and particularly on the health of kaimoana (shellfish) stocks.

The potential effects on pipi are most concerning as they are the most sensitive species to sediment contamination (according to research undertaken as part of the ecological assessment). Since this is one of the few shellfish left that can still be collected from the Inlet, Ngati Toa are very concerned about the need to protect pipi from the effects of sedimentation.

### Sediment investigations

The information gathered from the detailed investigations carried out in relation to sediment and erosion control is extremely valuable in assessing potential impacts on the Inlet and Porirua Harbour. In our view the modelling of effects associated with discharge of sediment and stormwater to streams and the marine environment is particularly useful in identifying sensitivities around construction staging and assessing effects (assuming the modelling is accurate).

The results of this investigation are very important in showing that the impacts of sediment discharge (with treatment) to the Inlet and Porirua Harbour are negligible, except when extreme weather conditions combine with construction activities in the vicinity of Duck Creek which would generate significant sediment discharge to Duck Creek and the Inlet.

In this scenario, it would be very difficult to mitigate the significant adverse effects and to a large extent these would be unavoidable. Although the likelihood of this situation occurring is fairly small, Ngati Toa is concerned to ensure that this risk is minimised as far as possible. It will be imperative that every effort is made to avoid this scenario through careful planning and management of construction activities.

### Stormwater

There is potential for significant adverse effects from the discharge of contaminated stormwater from the road surface to streams and the Pauatahanui Inlet. We are concerned that heavy metals and other chemicals may adversely affect ecosystems and reduce habitat quality, and that over the long term toxicity and reduced habitat quality will have serious consequences for maintaining the mauri of the streams and Inlet.

A potential mitigating factor in relation to the effects of stormwater discharge is the anticipated change in road use associated with the project. It is expected that there will be significant reductions in traffic currently using Grays Road and SH58 once the project is operational. Stormwater from these two roads currently discharges directly to the Inlet without treatment, so the movement of this traffic to Transmission Gully provides the opportunity for treatment prior to discharge. If these calculations are correct, we believe the impacts of stormwater discharge would be significantly reduced and may even be improved.

Nevertheless, we consider that all stormwater discharged from the Transmission Gully highway should be treated to the highest possible standards in order to minimise the effects of contaminants on water quality. Even with treatment we are concerned about the discharge of stormwater contributing in the long term to the accumulation of contaminants in marine sediments. We accept that to some extent these cumulative effects will be unavoidable. However it is imperative that these effects are minimised as far as possible through effective erosion and sediment control, and by ensuring that stormwater treatment devices are functioning efficiently and being properly maintained.

### Relocation of transmission lines

As a consequence of the Transmission Gully project, it is proposed to relocate twenty four 110kv transmission towers which are located within the Te Puka

valley, Horokiri East Valley and Ration Stream catchment. There will be a requirement for access roads to these towers for construction equipment and an ongoing need for vehicle access to each tower base for ongoing maintenance. For many towers access is available through existing farm tracks but for others construction of additional access tracks will be necessary.

As a result, there is potential for sediment discharge to streams from construction of the towers and associated access roading. The risk of sediment contamination is particularly concerning in relation to the Horokiri and Ration streams (and their tributaries), which are in the vicinity of most of the works associated with the project and have been identified as having significant ecological and cultural values. Avoiding adverse effects to these streams is a priority for Ngati Toa in considering the potential impacts of this project on cultural values.

To this end we are satisfied that the great majority of tower locations are on flat ground, either river terraces or downland, and almost all of these sites have existing access tracks to them. In our view this will eliminate the risk of erosion and sediment discharge from these works.

However, seven towers will be built on steeper slopes. Three of these are on high spurs and are removed from streams, thus minimising the risk of significant sediment discharge to streams. The other four towers are on slopes above streams and therefore additional care is needed to minimise erosion.

Overall, and given the modest scale of earthworks required, we consider that the risk of significant effects from sediment discharge is low. Most sites are located on flat to rolling land and management of erosion should be straightforward. A few sites lie on steeper ground and greater attention to the minimisation of sediment discharge to streams will be needed. To ensure that effective erosion and sediment control does occur, we believe that Consent conditions to this effect would be appropriate.

## **2 Streams**

Despite the general degradation of streams and waterways throughout the catchment over the years, they still provide important habitat for a variety of native fish species and for watercress which is picked for iwi gatherings. Ngati Toa still gathers kaiawa (freshwater species) from local streams, including the Horokiri, Pauatahanui and Waiohata (Duck creek). Tuna (eels) and inanga (whitebait) are the most common species harvested. The stream survey undertaken as part of the ecological assessment confirms the presence of high fisheries values in the Horokiri Stream and Waiohata (Duck Creek), as well as the eastern tributaries of the Te Puka and Horokiri Streams. These survey

results are consistent with Ngati Toa's knowledge of native fish stocks in the area.

### Stream habitat for threatened native fish species

These streams also provide important habitat for eight species of nationally threatened indigenous fish species, and the Horokiri and Waiohata (Duck Creek) are noted for their diversity of native fish. The Waiohata (Duck Creek), in particular, sustains one of the best native fisheries on the west coast of the Wellington Region. With relatively few streams now in the Wellington region able to support significant native fish populations, the long term preservation of these stream habitats is of even greater importance on a regional scale.

### Proposed stream works

Given the ecological and cultural significance of these streams, and the nature and scale of proposed stream works, we consider the potential impacts to be significant. The project will require approximately 115 culverts, 13 bridges crossing streams and extensive diversions. The culverting and diversions will result in the permanent loss of 6,000 m of freshwater habitat, riparian margins and resident populations of freshwater flora and fauna. Modification to a further 5,300m of freshwater habitat and riparian margins through bridge construction and diversion will also be required.

In addition, a significant portion of the route lies within or very close to five important streams (Duck Creek, Pauatahanui Stream, Ration Creek, Horokiri Stream and Te Puka stream). Of these the upper and middle portions of Duck Creek and middle and lower portions of Horokiri will be affected most by diversions leading to the loss of significant areas of stream habitat and the permanent loss of mauri to these sections of stream.

To mitigate for the loss of stream habitat we believe it will be necessary to undertake extensive revegetation of riparian margins, as well as ecosystem restoration and enhancement. The loss of mauri to some areas of the stream environment will have spiritual consequences and therefore will need to be mitigated through appropriate karakia (spiritual incantation) and tikanga (cultural practices). In a similar way the restoration of mauri to other areas which are to be restored will also require appropriate karakia.

### Relocation of transmission lines

Two temporary crossings of the Horokiri Stream are required to reach two of the tower locations (i.e. towers 13AW and 14AW). All other new towers lie in close proximity to existing Transpower access tracks, or farm access tracks, or logging tracks, and can be accessed over pasture without crossing streams.

Both of the proposed towers are in the headwaters of the Horokiri Stream. At these locations Horokiri stream is quite small and lies in pasture with little riparian vegetation. Temporary culverts are required to allow stream crossing by a range of heavy vehicles during tower installation and wiring. Following installation, annual maintenance can be accommodated, and with less risk of stream effects, by a ford as is the current practice.

Overall, we consider that use of temporary culverts for line installation of these towers will have little or no effect on freshwater habitat, and is unlikely to affect fish passage. Given the modified state of the stream and the short term nature of the crossings, we believe any effects on freshwater habitat and cultural values will be negligible. However, we believe that Consent conditions to ensure fish passage is protected and to manage culvert installation and dis-establishment, would be appropriate.

#### Impacts on native fish

In our estimation there is potential for significant impacts on native fish, which are resident in all streams affected by the project. Local populations are likely to decline due to the loss of habitat through culverting and stream straightening. They will also be affected by habitat changes associated with diversion channels and stream reclamation. The movement of migratory fish could also be restricted by streambed modifications and culverts,

In our view, any encroachment of construction activity into stream environments particularly where stream crossings are required, will need to provide for fish passage and natural debris flows in streams. Once Transmission Gully is operational, regular monitoring of fords and culverts will be required to ensure that fish passage does not become obstructed and that the stream habitat is continually protected.

### **3 Native vegetation**

Ngati Toa are concerned about the substantial loss of native vegetation required for road construction and particularly the impacts on the Te Puka Valley where the majority of mature native forest resides. The project will require the further removal of up to 20 ha of mature native forest and up to 47 ha of secondary native forest, as well as up to 50 ha of regenerating shrubland and scrub.

The majority of the project footprint lies in a highly modified pastoral landscape, but there are several remnant pockets of native vegetation and areas of regenerating forest which have important ecological and landscape values. The survey undertaken as part of the ecological impact assessment highlighted the importance of specific sites of native vegetation within the Ration and Te Puka catchments, and Porirua Park Bush as habitat for native bird species. It further

noted that the forest remnants within the Te Puka catchment provide important nesting and feeding habitat for a variety of native, threatened and at risk species, including the NZ bush flacon and North Island Kaka.

Around 70% of the indigenous forest that existed in the region in 1840 has been cleared for agriculture and urban development, and it continues to be lost to the region. Thus, we believe remnant pockets of indigenous forest and native vegetation in the vicinity of the proposed alignment should be avoided wherever possible. In situations where this is unavoidable, the road design should seek to minimise vegetation removal through sensitive route alignment and careful construction.

Extensive revegetation will be required as mitigation to maintain biodiversity values and important habitat for native birds. To mitigate for the loss of mauri in areas requiring the removal of indigenous forest, Ngati Toa will need to be involved to ensure that appropriate karakia are performed to minimise the spiritual consequences of habitat loss.

#### Relocation of transmission lines

The potential loss of vegetation and habitat from the construction of new tower foundations, the upgrading of existing towers and the formation of access roading for construction is also a concern. The potential effects of vegetation removal required to maintain line clearance and potential effects on native birds are also of concern and have been carefully considered in assessing the project for any cultural effects.

We have concluded that no towers or access roads will adversely affect native forest or vegetation. None of the towers are or will be located in native forest or native shrubland, and access roads will not cross native forest or scrub.

In terms of the installation of the proposed line relocation, no vegetation removal will be necessary as part of the works and it is unlikely to be necessary for the foreseeable future for line operation. There are a small number of sites that traverse regenerating native bush, two of which are advanced mitigation planting. However in all cases the sites are located in gullies and the vegetation is of low stature and will not be affected.

Two spans cross mature native forest located in the bed of the Te Puka Stream and lower slopes of the valley. However, this forest will not need to be trimmed or cleared to provide for the line installation. It is also unlikely that any trimming of native vegetation will be needed for maintenance in the foreseeable future.

In terms of the potential effects on native birds, we note that the towers at Wainui Saddle and upper Te Puka Valley will be moved away from the Akatarawa forest, which has been identified as the most important bird habitat along the Transmission Gully alignment. Therefore, any effects will be at the least neutral, and there could be a minor positive outcome from the proposed works.

Overall, the locations of towers and access roads appear to avoid important sites of native scrub and forest. However, where these sites are located in the vicinity of proposed works we believe they should be identified prior to construction commencing and protection mechanisms should be outlined in Site Specific Environmental Management Plans. Consent conditions should also provide for the protection of native vegetation and habitat for terrestrial fauna.

#### **4 Waahi Tapu**

The Transmission Gully alignment passes near several areas of significant cultural and historical value. However it does not directly impact on any known waahi tapu (sacred sites) or sites of cultural significance. This is consistent with the focus of Ngati Toa settlement along the coast, as opposed to inland forested areas which were favoured for subsistence.

Traditionally the predominance of native forest throughout the Transmission Gully area provided a rich environment for bird life and supported a diverse range of native plants that were gathered for kai and rongoa (medicinal purposes). The area was also an important source of timber required for the construction of houses, canoes, tools, weapons and other items. The extensive network of streams and waterways provided an abundance of kaiawa (freshwater species) which was an important food source for Ngati Toa.

Given Ngati Toa's traditional use of the area for hunting and resource gathering (rather than settlement) the possibility of uncovering waahi tapu during construction is unlikely. However we believe it is possible that taonga (eg traditional weapons or tools used for resource gathering) may still be present in the area and could be unearthed during construction. We are aware that Taonga (particularly stone implements) have been discovered over the years in the Horokiri Valley, which also provided important resources for subsistence and was used as an access route between the Kapiti Coast and Porirua and the Hutt Valley.

In the unlikely event that waahi tapu or taonga are unearthed during construction, it will be necessary to have an accidental discovery protocol in place to ensure that all work ceases immediately and that Ngati Toa (and the Historic Places Trust) are contacted. We believe this should be required as a condition of consent and that all subcontractors should be fully briefed as to the possibility of unearthing cultural material and the appropriate procedures if such material is encountered.

We are also conscious of the fact that the land disturbance associated with relocating the transmission towers and associated access tracks could damage or destroy waahi tapu or other sites of cultural significance. We are confident that known waahi tapu will not be adversely affected but in the event that cultural

sites or material are discovered during works for the relocation of transmission lines, the accidental discovery protocol should also apply.

## **5 Areas of Cultural Significance**

While not located directly within the proposed alignment, there are several areas of cultural significance in close proximity that could be adversely affected by the construction and operation of Transmission Gully.

The importance of Ngati Toa's traditional relationship with these areas has been acknowledged by the Crown in negotiations over the settlement of Ngati Toa's Treaty claims, and specific redress in relation to these areas is anticipated in the final settlement package. The purpose of this redress will be to enhance Ngati Toa's ability to participate in the management and protection of areas of cultural significance.

These areas serve to reinforce Ngati Toa's long history of settlement and customary use in the vicinity of the project and emphasise Ngati Toa's Tangata Whenua status and role as Kaitiaki in promoting the sustainability of the environment.

### **Queen Elizabeth Park**

Queen Elizabeth Park is located partly within the area of an historic "native reserve". This originally extended from Paremata to Wainui and was set aside by the Crown for the perpetual benefit of Ngati Toa as part of the "purchase" of Porirua in 1847.

The Park encompasses areas of early Ngati Toa settlement and contains a number of important waahi tapu, including urupa, pa and kainga sites. Two significant streams also pass through the Park, the Wainui and Whareroa Streams, which were traditional sources of kaiawa and still retain important cultural associations to this day.

The proposed route does not pass directly through the Park and is located some distance from known waahi tapu which are generally found towards the coast. However given the massive volume of earthworks required to construct the highway, there is potential for sediment and stormwater contamination of the Wainui Stream and downstream effects on the coastal environment. The development and implementation of robust measures to control stormwater and sediment run-off will be of paramount importance in minimising adverse effects on freshwater and marine environments.





## Battle Hill Farm Forest Park



**Figure 2 Shows the alignment of the Transmission Gully route through Battle Hill with the Horokiri Stream in close proximity.**

This is the site of the last battle in the region between Ngati Toa and the Crown in 1846, hence the name “Battle Hill”. Tensions escalated as a result of the Crown’s desperate need for Ngati Toa’s land to provide sections for British settlers. Ngati Toa’s resistance was finally met with the full military force of the Crown. Te Rangihaeata was driven from the Hutt Valley and pursued up into the dense Horokiri forest where he established a series of defences and engaged in battle with Crown troops. There were a number of deaths on both sides during the conflict and they are all buried on this site. The grave sites and site of the battle itself on the ridge leading up to Battle Hill summit are regarded as waahi tapu. Battle Hill symbolises the key turning point in our history when the Crown supplanted Ngati Toa’s mana with it’s own authority. This resulted in major land loss and dislocation for Ngati Toa which has had enduring consequences for the Iwi to the present day.

Of all the culturally significant areas identified in this report, Battle Hill will be most impacted by the construction of Transmission Gully. The proposal is for the highway to pass directly through the valley floor at the rear of the Park, therefore the potential for adverse effects is certainly an issue for Ngati Toa. In addition,

the relocation of towers that is required to accommodate the proposed Transmission Gully project will also impact directly on the park.

However, having considered these potential effects, we are satisfied that the grave sites and the battle site are located well away from the proposed route and transmission line relocation works. We do not believe these sensitive areas will be directly impacted by the proposed works and therefore we do not anticipate any adverse effects on waahi tapu or our traditional relationship with Battle Hill.

In terms of environmental effects, these will be substantially reduced by the preferred route which requires less earthworks than the designated alignment and crosses the park on flatter land on the valley floor. This will provide more room for stormwater control and reduce the risk of sediment entering the Horokiri Stream and affecting the Pauatahanui Inlet. However sediment discharge remains a significant risk and will require extensive mitigation through effective erosion and sediment controls, as well as stormwater treatment.

Assuming mitigation of stormwater and sediment effects can be achieved, we are confident that important cultural values associated with Battle Hill will not be adversely affected by the project.

### **Pauatahanui Wildlife Reserve**

The Pauatahanui Wildlife Reserve is located in the eastern half of the Pauatahanui Inlet. It is the largest of the four areas managed by DOC within the Inlet and was intended to protect wildlife from disturbance.

The Inlet has always been regarded as a Taonga (a highly prized treasure) by Ngati Toa. Even in its degraded state it is treasured because it nurtured our ancestors in the past, and we believe still has the potential to provide for generations to come.

Traditionally the Inlet sustained an abundance of fish and shellfish which formed an essential part of Ngati Toa's diet. Pipi and cockles were a particularly important food resource which could be easily gathered from the mud flats of the Inlet at low tide. However the effects of intensive urbanisation and roading developments over the years have undermined the health of the Inlet to the point that it can no longer sustain traditionally abundant species of fish and kaimoana. Ngati Toa continue to value the Inlet as a mahinga mataitai (seafood resource) and we support efforts to restore and regenerate the Inlet in the hope that it will be able to sustain traditionally important sources of kaimoana in the future.

Although the proposed alignment does not encroach into the Reserve, the downstream effects of sediment and stormwater run-off have the potential to contaminate the Reserve and thereby Pauatahanui Inlet. The Horokiri Stream flows along the valley floor in close proximity to the proposed route for a

considerable distance and it discharges to the Inlet in the vicinity of the Reserve. Ngati Toa are concerned that the health of the Inlet is not further compromised by the construction of Transmission Gully. To this end, we are insistent that measures designed to control sediment and stormwater run-off provide the highest possible levels of protection to stream and marine environments.

### **Horokiri Wildlife Management Reserve**

The Horokiri Wildlife Management Reserve is situated to the west and south of Grays Road, near Horokiri Stream, and is characterised by an estuarine wetland.

The location of the Reserve is in the vicinity of Motukaraka Point which was an important Ngati Ira settlement prior to Ngati Toa's arrival in the 1820s. Following Ngati Ira's defeat, Ngati Toa took over residence at Motukaraka and established extensive cultivations throughout the area. A pa was established on this site because of the elevated nature of the site and its commanding views of the harbour. When tensions between Ngati Toa and the Crown escalated in 1846, Te Rangihaeata moved from Mana Island to Motukaraka for a brief period before establishing his palisaded Pa at Mataitaua (where St Albans church is now located).

The Horokiri Wildlife Reserve is located well away from the proposed route but like the Pauatahanui Wildlife Reserve it is susceptible to the downstream effects of sediment and stormwater run-off. The importance of developing and implementing appropriate measures to mitigate the adverse effects of sediment and stormwater run-off cannot be overstated.

### **Porirua Harbour**

From the time Ngati Toa first settled in the Porirua area in the early 1820s, the Porirua Harbour has occupied a central place in Ngati Toa's livelihood and identity as a people. Not only was it a vital food source, but it was also important strategically and was closely controlled by Ngati Toa's chiefs until the mid nineteenth-century when its control was challenged by the Crown and settlers. Te Rauparaha is reputed to have told Governor Grey that whoever held Paremata and Porirua Harbour controlled the northern approaches to Wellington and this advice was reflected in the Crown's military strategy to control the area.

Takapuwahia on the western side of Porirua Harbour became the most important Ngati Toa kainga following Te Rauparaha's detention by the Crown in 1846. It has been Ngati Toa's primary residence ever since. At the mouth of the Porirua Harbour, Paremata was another important area of settlement. Paremata Pa was constructed in the 1830s and was the residence of Nohorua, Te Rauparaha's older brother. Whitireia, at the southern entrance to Porirua Harbour, is yet



another important area of occupation and contains many significant sites including urupa, kainga, pa, middens, pits, terraces, and tauranga waka.

Porirua Harbour was the primary source of food for the settlements located around its fringes. The now extinct tuangi (pipi endemic to Porirua Harbour) could be gathered in abundance from the uncovered mud flats and was the most highly prized of all shellfish in the area. A sand bank located in the eastern arm of the harbour (named “Nga Whatu o Topeora” after Te Rauparaha’s niece), was an important mahinga kai and storehouse. Koura, paua, and kina were all in abundance around the coastal fringes, and cockles, mussels, and a wide variety of fish were all found in the harbour.

Over the following decades the effects of intensified land use around the harbour, reclamations to the harbour’s edge and general contamination (from sediment, stormwater and raw sewerage before the treatment plant was built), have all undermined the health of the Harbour to the point where we are no longer able to harvest kaimoana as our ancestors did. Ngati Toa are currently involved in efforts to revitalize the Harbour with a view to being able to harvest kaimoana once again at some point in the future.



**Figure 3 Above Cannons Creek with Pauatahanui Inlet in the background and Porirua Harbour out of view to the west.**

Therefore Ngati Toa are concerned about the potential effects of increased volumes of sediment to the harbour as a result of the development of the southern section of Transmission Gully. The proposed Kenepuru interchange and link road are located in the vicinity of Porirua Stream which feeds into the southern end of Porirua Harbour. There is potential for sediment contamination of the stream and ultimately the Harbour. Robust mitigation of these effects will be necessary through the development of effective erosion and sediment controls, and stormwater treatment.

# Mitigation of Cultural Effects

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The Transmission Gully project raises significant concerns for Ngati Toa, particularly in relation to the risk of sediment contamination of streams and the Pauatahanui Inlet. The nature and scale of construction activities, and the location of the route within an area of high cultural value, creates the potential for significant adverse cultural effects. Where these effects cannot be avoided, they will require appropriate mitigation.

A range of mitigation measures are discussed below to address adverse cultural effects. The mitigation proposed in the Assessment of Ecological Effects has been carefully considered given the similarities between the potential cultural and ecological impacts. We support all aspects of the mitigation proposed in that report, but for the purposes of this discussion we have only highlighted certain areas of the mitigation that address particular cultural effects.

## 1 Sediment

Ngati Toa's primary concern is the risk of sediment discharge to the Inlet and Harbour during construction and the long term discharge of contaminants from the road surface once operational. This potential impact will be an area where high levels of control will need to be required as conditions of resource consents.

We strongly support the development of a sediment control plan by the New Zealand Transport Authority (NZTA) and the Greater Wellington Regional Council. This will be necessary to identify specific measures to be imposed and how the effectiveness of those measures will be monitored on an ongoing basis. We consider that effective monitoring will be just as important as robust measures to the achievement of successful sediment control.

### Construction site management

Mitigation of the downstream impacts of sediment from earthworks on streams and estuaries will require a range of measures to manage erosion and treat sediment during construction. It will be crucial that construction is managed using the best practice methods and the mechanisms outlined in the sediment report (by SKM) and the Greater Wellington Regional Council practice guideline.

The NZTA is proposing to significantly exceed regional guidelines for erosion management and sediment control, and restrictions will apply to maximum areas of earthworks that can be open in a watershed at any one time to reduce the risk of large scale failure during a storm event. We strongly support these measures

and believe they are capable of managing sediment release from construction sites to streams to acceptable levels.

### Sediment deposition in the Inlet and Porirua Harbour

It will be very difficult to mitigate the deposition of sediment in the Pauatahanui Inlet and Porirua Harbour. Therefore it will be important that every possible effort is made to avoid sediment discharge to the marine environment in the first place. This has been the approach taken throughout the project and we are supportive of the suite of mitigation proposed to achieve this outcome.

However the risk remains that in a large rainfall event, where sediment deposition occurs at a depth and duration that is likely to cause adverse effects, the options for remedial action are very limited. The sediment study shows that Duck Creek would be particularly sensitive to the effects of sedimentation if peak construction was to coincide with a heavy rainfall event. It also notes the high potential for adverse effects during a 10 year storm in sensitive areas of Duck Creek and Pauatahanui catchments during peak earthworks, in northerly wind conditions. Although there may only be a small risk of a 10 year storm coinciding with peak construction (to occur over a 2-3 year period) in these catchments, the adverse effects of such an event on estuarine habitat and the mauri of the environment would be significant and unavoidable.

The inability to remedy these adverse effects once they have occurred is of concern to Ngati Toa. However we believe these potential effects are largely mitigated by the low risk of such an event occurring and the positive effects of other mitigation intended to reduce erosion and sediment discharge over the medium to long term. In particular, the extensive areas of land proposed for retirement and revegetation in the Te Puka, Horokiri and Duck Streams will potentially reduce sediment discharge to the Inlet and Wainui Stream. Also the anticipated reduction of traffic on SH58 due to Transmission Gully will undoubtedly have a positive effect on the Inlet by reducing contaminant loading to the Inlet in the medium term.

We believe there will also be benefits from the range of ecological investigations undertaken as part of this project which will provide valuable knowledge and science for local communities, Ngati Toa and other agencies with an interest in the streams and harbours. In our view, this will provide opportunities to improve our understanding of these environments and enhance our ability to manage them more sustainably in the future.

## **2 Streams**

The Transmission Gully project has the potential to generate significant adverse effects on streams, primarily through habitat loss and modification. We consider



that mitigation of these effects will require extensive stream enhancement and the protection of native fish populations. There will also be detrimental effects on the mauri of stream environments which will need to be mitigated through the use of appropriate karakia (prayer or incantation) and tikanga (cultural practices). The restoration of mauri to other areas which are to be restored will also require the use of karakia.

#### Stream enhancement and protection

The mitigation being proposed for habitat loss (in the ecological impact assessment) includes very significant stream restoration and enhancement proposals. More than twice the length of stream adversely affected by the project will end up being restored as a result. The upper Horokiri and Te Puka catchments are the main focus of mitigation, as substantial land retirement and stream enhancement is possible in these areas.

We strongly support these mitigation proposals and the rationale for selecting these particular sites as they have the highest ecological value and the most potential for quick recovery and long term benefit. We also support the approach taken in selecting key ecological areas for mitigation as opposed to creating small isolated sites along the route within each affected catchment.

There are also a number of re-planted riparian areas associated with the Duck and Ration streams. In our view these areas will have positive effects and should be considered as an existing benefit for the loss of habitat and riparian vegetation.

#### Aquatic habitat

The mitigation package proposes a number of treatments for the loss or modification of aquatic habitat. These include ensuring that culvert design will allow fish passage and that stream diversions are designed and constructed to be consistent with the morphology of the streams. We strongly support these measures and believe they will provide significant benefits for native fish.

Additional mitigation is proposed to repair malfunctioning culverts in Duck Creek which are currently limiting fish movements within these catchments. We strongly support this mitigation and expect that the replacement of these culverts will open up approximately 10 km of stream to fish access. We believe this will provide significant benefits for native fish within these catchments.

In order to reduce the incidence of native fish mortality during construction, we propose that fish should be captured and transferred from streams prior to reclamation for culverts and diversions.

## Conclusion

Overall, we consider that the proposed mitigation will significantly reduce adverse effects on freshwater habitat. In some locations (e.g. Te Puka) there will still be significant and unavoidable adverse effects through the loss of important aquatic and terrestrial habitat. However we are confident that these effects will lessen over time as the positive benefits of mitigation in other areas (e.g. Horokiri) become apparent.

The retirement and revegetation of sections of stream within the Te Puka, Horokiri and Duck Streams will also be beneficial in creating aquatic habitat with greater habitat values than are currently present in these environments. We believe this will have long term ecological and cultural benefits.

## **3 Stormwater**

In our view, all stormwater discharged from the Transmission Gully highway should be treated to minimise the effect of contaminants on water quality of the freshwater and coastal environments.

### Stormwater treatment

The stormwater modelling undertaken for the ecological assessment concludes that the new alignment will have a negligible effect on stormwater discharge of contaminants, suggesting that treatment will not be necessary. However the NZTA has committed to treatment of stormwater runoff to meet their internal guidelines which exceed best practice and standard guidelines. We strongly support the NZTA in its commitment to treat stormwater runoff and to impose higher treatment standards than would normally be required.

The mitigation proposed for stormwater treatment requires the use of swales and wetlands, where possible, and proprietary devices in other areas. In combination, these devices are expected to perform to a standard that prevents any increase in the levels of contaminants in stormwater discharging to streams and estuaries. However this will depend on whether the anticipated traffic volumes transfer to Transmission Gully from Grays Road and SH58, where currently vehicle and road contaminants flush, untreated, into the harbour.

The removal of traffic from Grays Road and SH58 would have considerable benefits for the Inlet over the medium term through the reduction of untreated road run-off that currently discharges to the Inlet, and the treatment of run-off from Transmission Gully to remove contaminants.

Furthermore, the sediment modelling predicts on a grouped catchment basis that, with Transmission Gully, the water quality discharged to coastal receiving

environments will improve slightly. This is due to the fact that Transmission Gully provides the opportunity to introduce stormwater treatment as an integral part of the road design.

## Conclusion

Mitigation for stormwater effects will entail the use of a combination of treatments and devices. We are particularly supportive of the “treatment train” approach and use of wetlands which are proven to be effective in removing road contaminants. Wetlands also have important ecological values and can provide benefits for native flora and fauna. Given these benefits, we would encourage the use of wetlands over proprietary devices, wherever possible.

Based on the comprehensive mitigation proposed to manage the effects of stormwater, we consider that contaminant discharge can be managed to produce the highest quality discharge possible resulting in very low effects.

## **4 Native Vegetation**

Our preference is that all areas of native forest/vegetation should be avoided, wherever possible. Although substantial modifications to the alignment have already been made to reduce adverse effects, we believe that further consideration should be given to investigating opportunities to avoid sites of native vegetation during the detailed design stage.

Where adverse effects cannot be avoided, it will be necessary for extensive revegetation and habitat restoration to be undertaken to mitigate these effects. The loss of mauri in areas where native forest has to be removed will also need to be mitigated through the appropriate use of karakia and tikanga.

To this end we are supportive of the revegetation proposals as part of the mitigation for terrestrial habitat loss, and the selection of sites intended to maximise ecological benefits. In addition, the retirement of approximately 400 ha of land is proposed to offset the loss of 120 ha of native vegetation. This is considerably more than the 250 ha estimated to mitigate the loss of native vegetation which we believe will result in positive ecological effects over the long term.

This mitigation includes land in the Te Puka and upper Horokiri, combined with early retirement planting (carried out by NZTA as part of the existing designation requirements), and revegetation above Porirua Park Bush. We anticipate positive benefits in the longer term through the restoration and natural regeneration following stock removal. Improvements to water quality and aquatic habitat are also likely through the removal of stock grazing and revegetation in the upper catchments.

In the long term, retirement and revegetation of land in the Te Puka, Horokiri, Ration, Pauatahanui, Duck and Kenepuru catchments will expand a range of plant communities along the road corridor, providing both more habitat and “green corridor” along the route. We consider this to be an important long term benefit of the mitigation as it will provide landscape and amenity benefits, as well as essential habitat for native birds.

## **5 Waahi Tapu**

Ngati Toa are not aware of any waahi tapu, or other sites of cultural significance, in the immediate vicinity of the proposed alignment. The possibility of unearthing cultural material is therefore considered to be low. However there is always a possibility of encountering waahi tapu (sacred sites) and/or taonga (artefacts) during construction and so it is important for a clear procedure to be put in place.

In this regard, we consider that an accidental discovery protocol should be developed between Ngati Toa and the NZTA to clearly outline the process to be followed in the event of a site or any material of cultural significance being encountered during construction. This should be included as a condition of consent.

It will be important for contractors engaged to carry out the earthworks to be fully briefed on the accidental discovery protocol. This is to ensure that the right procedures are followed i.e. that work ceases immediately in the event of encountering a cultural site/material and that Ngati Toa is contacted (and the Historic Places Trust) so that the appropriate site investigations and cultural rituals can be carried out before recommencing work.

The role of contractors will be critical to the effectiveness of the accidental discovery protocol and ultimately to the protection of any cultural sites/material discovered during the works. Therefore we consider it important for the protocol to be reflected in any arrangements with the contractors.

## **6 Monitoring**

Monitoring of effects throughout the construction and operational phases of Transmission Gully will be critical to achieving the sustainable outcomes anticipated from the mitigation.

In order to mitigate the cultural effects identified in this report, monitoring of the following effects and treatments will be critically important:

- Post construction monitoring of fish passage is required to ensure the designs are effective and that the, diversion, culverts and fish ladders continue to operate to their design standards.
- Pre and post construction monitoring of earthworks is crucial and should include assessment of the downstream changes in environmental factors including water quality, sediment deposition and ecology.
- Ongoing monitoring and maintenance of stormwater treatment devices is necessary to ensure that they continue to operate according to the identified efficiencies.

## **7 Memorandum of Understanding**

As part of the mitigation of cultural effects, it will be necessary for Ngati Toa and the NZTA to formalise their relationship through a memorandum of understanding. Discussions are underway between the parties to develop the terms of the agreement. This will be based on open communication in relation to the design construction and completion of the projects.

The agreement will need to recognise Ngati Toa's status as Tangata Whenua throughout the project area, and our role as Kaitiaki in relation to the natural environment. It should clearly outline the mitigation required to address cultural effects and specify how Ngati Toa wish to be involved in mitigating the spiritual consequences of the loss of mauri to parts of the environment (through the use of appropriate karakia and tikanga). Ngati Toa will also need to be kept informed of the results from the monitoring exercise as these will be critical in determining the effectiveness of mitigation of cultural effects.



## Conclusion

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Ngati Toa support Transmission Gully as a way to ease congestion along State Highway One, thereby protecting the coastal environment from further roading impacts. In the absence of Transmission Gully, major upgrades will be required through Mana and Centennial Highway to cope with projected increases in traffic levels. This would require further reclamation of the coastal environment and the destruction of numerous sites of cultural significance along the route. As a result, there would be significant adverse cultural effects which in our opinion could not be appropriately mitigated.

However Transmission Gully is a major infrastructure project requiring large scale construction activities within an area of high ecological and cultural value. Therefore it has the potential to cause significant adverse effects on the surrounding environment and important cultural values associated with the area. This report has focussed on the potential cultural effects arising from the project and has proposed appropriate mitigation where necessary. The overriding consideration for Ngati Toa in assessing the cultural effects of the project is the protection of mauri (the spiritual life force), which determines the overall health of the environment.

In conclusion, we are satisfied that the adverse cultural effects identified in this report can be appropriately mitigated. A considerable amount of work has been done in refining the road alignment to avoid or minimise adverse effects which we believe has been beneficial in reducing the overall impact of the project. However there will still be significant impacts on some areas of native vegetation and significant lengths of stream which will be unavoidable. A comprehensive range of mitigation will be required to address these losses and the loss of mauri. However over time we believe that mitigation will reduce the scale of these effects to the point where there will be a range of positive effects on the environment.

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