



SYNERGIA

Bay of Plenty Proposed
Regional Policy
Statement: Social and
Economic Impact
Assessment

Report for
Bay of Plenty Regional
Council

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Thanks are also extended to the Bay of Plenty Regional Council who commissioned this report. Acknowledgement is also given to Ron King, who prepared the population maps that accompany this report and to Dr Nick Taylor who peer reviewed an early draft of the report.

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION AND APPROACH

This social and economic impact assessment (SEIA) is a strategic assessment of the proposed Bay of Plenty Regional Policy Statement (RPS); in particular, the report focuses on the impacts for Māori and socially and economically disadvantaged communities in the region. The report focuses on seven key policies within the RPS:

- Defining catchments at risk
- Allocation of nutrient discharge levels
- Water allocation principles
- Managing water takes to ensure efficient use
- Managing adverse effects of land-based activities on marine water quality
- Enabling sustainable aquaculture
- Avoiding inappropriate hazard mitigation works in the coastal environment.

This social and economic impact assessment draws on:

- Analysis of secondary data on the Bay of Plenty population, economy and water quality
- Analysis of submissions on the draft RPS
- A brief review of SEIAs undertaken in New Zealand on similar issues
- Interviews (telephone and face to face) with a range of stakeholders from Māori community organisations, iwi organisations, other non-governmental organisations and local government representatives (a full list of those consulted can be found in Appendix 1 on page 69)..

This work was undertaken over January-April 2011, with a view to informing discussions by elected representatives of the regional council by May 2011.

This report explores qualitatively the range of potential impacts identified by stakeholders, and where possible, suggest opportunities for mitigation/enhancement and management. The emphasis of the assessment on the views of community stakeholders is to constructively engage with groups which are often under-represented in consultation processes.

The project was commissioned by the Bay of Plenty Regional Council and undertaken by Dr Adrian Field of Synergia and Megan Tunks, an independent Māori researcher.

1.2 KEY FINDINGS

The research revealed both support for many of the directions put forward by the RPS, as well as concerns with some of the potential impacts of the RPS. The table below describes the key concerns/impacts identified.

Policy area	Potential impacts/concerns identified
Defining catchments at risk	<ul style="list-style-type: none"> • Potential constraints on economic development through limited dairying, particularly for Māori landholders • Cultural concerns relating to degradation of water environment
Allocation of nutrient discharge levels	<ul style="list-style-type: none"> • Impact of other pollutants in waterways, and cost to communities of dealing with water pollutants • Recreational and food gathering water use impacts • Health impacts • Concerns regarding the practical implementation of the policy
Water allocation principles	<ul style="list-style-type: none"> • Concerns regarding municipal water supply protection • Impacts of water takes on Māori communities and cultural practice
Managing water takes to ensure efficient use	<ul style="list-style-type: none"> • Supporting the rural economy • Inequity of water takes
Managing adverse effects of land-based activities on marine water quality	<ul style="list-style-type: none"> • Impact on cultural interests from urban and rural discharges • Access to seafood, and health impacts of polluted harbours and waterways • Recreational and food gathering access • Impact of forest slash on waterways and infrastructure
Enabling sustainable aquaculture	<ul style="list-style-type: none"> • General support for the permissive nature of the RPS with regards to coastal aquaculture • Creating opportunities for building skills of local Māori in marine science • Preserving coastal sites of cultural significance • Maintaining and enhancing biodiversity
Avoiding inappropriate hazard mitigation works in the coastal environment	<ul style="list-style-type: none"> • Impacts of works that have occurred to date • Costs of mitigation works and the people who bear the brunt of them

A key focus of this project was the issues identified by Māori organisations and communities. Issues raised included the following:

- Recognition of kaitiakitanga and Te Tiriti o Waitangi principles: Kaitiakitanga and the Treaty are acknowledged within the Resource Management Act (RMA),

and the RPS recognises the customary roles iwi play in looking after their environment, including protecting it for future generations. However, many felt that this was not always recognised with differences emerging with local councils over such issues as protection of sites of cultural significance.

- Protection of tangata whenua environmental principles: Some stakeholders felt more acknowledgement needs to be made of tangata whenua environmental principles including acknowledging kaupapa Māori science and evidence as well as western scientific evidence, and utilising such tools as Cultural Health Indicators for measuring river health.
- Inclusion of tangata whenua in resource management decision making: The RPS gives recognition to this inclusion, which was acknowledged by many interviewees and submissions to the draft RPS; in practice, this was identified as an area where more engagement is needed in the RPS implementation.
- Degradation of mauri: A common concern was the quality of lakes and rivers, and the impacts this has on the mauri or life essence of the rivers/lakes.
- Loss of traditional food harvests: A recurring concern of Māori was the decline or loss of traditional local food stocks (including eels, tuna, marine fish and shellfish) and the impact this has on their culture and mana.
- Water allocation mechanisms: Concerns were raised at the loss of access to water resources through current RMA-driven allocation processes.
- Developing Māori land: These included concerns with impacts of making some activities a consented process in catchments at risk, the cost of developing sustainable practices, and access to technical advice.
- Damage and destruction of special cultural sites: These included through hazard works, public works and water pollutants/contaminants.

1.3 CONCLUSIONS AND FUTURE DIRECTIONS

The discussions and research that underpinned this SEIA reveal a range of competing aspirations and tensions. One tension emerges from the desire to preserve and restore the environment of the region – and, with this, many of the deeply held Māori cultural traditions. The second key tension is the desire for the opportunity to build the economic foundations of the region (such as through dairying, horticulture and aquaculture), and achieve improve social outcomes through this.

Many of the concerns raised had less to do with the content of the RPS, but more to do with the historical forces that have created the environmental concerns, and their

attendant social, cultural and economic impacts, which the RPS is intended to address. There were however a number of objections (particularly the issue of dairying in at-risk catchments and municipal supply protection), which challenge some of the underlying approaches of the RPS.

From the stakeholder discussions, a range of potential directions forward are possible in the ongoing implementation of the RPS.

- Supporting/promoting improved farm management systems.
- Regional support/advocacy to implement water quality initiatives, such as TAPS (a drinking water subsidy to help small/disadvantaged communities improve supplies), or water reticulation/hazard management charges
- Strengthening systems for identifying and managing cultural impacts, particularly where issues in this report have raised cultural impacts (such as access to mahinga kai, and protection of sites of significance).
- Ongoing identification and management of health impacts, including cultural health indicators, in partnership with the district health board
- Fostering more integrated solutions to water allocation, through implementation of the RPS, working with iwi in the region
- Continue working across local government and other agencies to enhance water quality in the region
- Review of regional monitoring frameworks, to ensure they are fit for purpose in light of the issues raised in this review.

We recognise that the RPS is now well advanced, and that substantive change is unfeasible. The findings of the SEIA suggest a need for ongoing dialogue by the regional council, local councils and communities, in implementing the RPS, so that the adaptations demanded by the RPS can be planned and responded to by all parties.

In some key areas of RPS implementation at the local level, the use of community impact agreements and/or community liaison groups, may be useful tools to employ. Community impact agreements take place in a series of steps supported by information from social assessment processes. Community liaison groups could provide a way of informing and liaising between development interests and communities, in a forum for informed and constructive debate. A further option may be the establishment of community advisory panels drawn from the types of communities and interests that are represented in this report, who could be consulted as part of similar SEIA processes that are undertaken for future strategic planning activities.

2. INTRODUCTION

2.1 WHAT IS A SOCIAL AND ECONOMIC IMPACT ASSESSMENT?

Social and economic impact assessment (SEIA) involves the process of analysing, monitoring and managing the intended and unintended social consequences of any planned intervention. These interventions can range from small-scale community-based projects, to large-scale development plans, strategies and policies.

SEIA offers the opportunity to systematically explore potential social effects of a policy, plan, programme or project, and to incorporate social wellbeing considerations into policy and planning. SEIA complements the use of economic and environmental impact assessment at national and local levels.

Social impacts can be considered across a range of dimensions, including lifestyle, culture, community, quality of life and health. These are detailed in the diagram below.



Social impact assessment processes can be effective tools for combining research evidence with community and stakeholder engagement, and through this, influencing political/strategic decision making. They are often useful catalysts for inter-organisational collaboration. Impact assessments can:

- Foster environmental changes, such as safer environments, noise and emission abatement, and design of urban areas
- Bring about regulatory changes
- Inform the development of services, amenities and recreational facilities

- Inform design and planning guidance
- Refine strategic planning documents.

2.2 OVERVIEW OF THIS REPORT

The Bay of Plenty Regional Council issued its proposed Regional Policy Statement (RPS) in November 2010. The RPS is designed to provide an integrated approach to promoting the sustainable management of natural and physical resources in the region. The proposed RPS succeeded the previous draft RPS, and at the time of writing this report, is expected to be well-advanced towards final completion in mid-2011. This report provides a strategic SEIA of the RPS, focusing on the views of Māori, NGO and local government interests in the region.

Regional Policy Statements are pivotal documents in the long-term planning of a region. Under the Resource Management Act (RMA), a RPS provides overarching directions for its region, by “providing an overview of the resource management issues of the region and policies and methods to achieve integrated management of the natural and physical resources of the region.” A significant aspect of an RPS is that district plans, prepared by district and city councils within each region, must “give effect” to the RPS. Regional Coastal Plans, issued by Regional Councils, must similarly give effect to the RPS. The RPS is guided by the RMA, and must also give effect to national policy statements (such as the NZ Coastal Policy Statement) and national environmental standards.

In developing its Proposed RPS between 2008 and 2010, the Bay of Plenty Regional Council engaged in extensive consultation. The council received many comments from people across the region on the content of the draft RPS, many of which identified potential environmental, economic, social and cultural impacts. These informed the development of the proposed RPS.

Once the proposed RPS was issued, regional council management and elected representatives saw the need for further exploration of potential social and economic impacts, with a focus on seven key policies:

- Defining catchments at risk (policy WL2B)
- Allocation of nutrient discharge levels (WL5B)
- Water allocation principles (WQ 3B)
- Managing water takes to ensure efficient use (W8QB)

- Managing adverse effects of land-based activities on marine water quality (CE9B)
- Enabling sustainable aquaculture (CE12B)
- Avoiding inappropriate hazard mitigation works in the coastal environment (CE11B)

It is recognised that the above policies have been developed in order to address a range of critical environmental and resource management concerns, particularly:

- Decline in water quality from land use
- Pressure on finite water resources
- Competing demands for water and other resources
- Effects of nutrient discharges on Rotorua Te Arawa Lakes
- Soil health and productivity reduced by unsustainable land management practices
- Adverse effects from land use and development on the coastal environment
- Effects of sedimentation on harbours
- Managing the allocation of space for a range of competing uses in the coastal marine area
- Impact of hazard mitigation works on natural character and ecological functioning

Any of these concerns about potential environmental effects could give rise to consequential impacts on people and communities, and their social and economic wellbeing.

This work was undertaken over a rapid timeframe with a view to informing discussions by elected representatives of the regional council by May 2011. The report explores the potential social and economic impacts that may emerge from actions intended to address the above concerns. In particular, the report focuses on the impacts for Māori and more deprived communities in the region who are often under-represented in consultation exercises and formal submissions processes. The report also discusses potential forward directions in response to the issues raised and impacts identified, to support the decision-making process for the regional council.

The research was undertaken by Adrian Field of Synergia Ltd, an Auckland-based research and evaluation company; and Megan Tunks, an independent Māori researcher.

3. METHOD

This social and economic impact assessment (SEIA) brings together four strands of activity:

1. **Comments analysis:** Comments on the draft RPS were reviewed, identifying the potential social and economic impacts that were raised through the formal consultation process. This component of the SEIA gives a reflection of the local aspirations and concerns raised in the RPS preparation process to date.
2. **Literature review:** The New Zealand research base was reviewed to explore potential social and economic impacts of different types of water and coastal management initiatives. These included:
 - Changes in irrigation land use, such as in the Tasman and Canterbury regions
 - Allocations of water resources (such as for hydro-electric activities on the Waitaki and Mokihunui Rivers)
 - Voluntary initiatives in water quality management in Taupo and Rotorua Lakes.
 - Marine reserves
 - Aquaculture development

This was a 'high-level' review of the literature in this area to explore the potential social and economic costs, opportunities and impacts of policy proposals; the key learnings that have emerged; and potential mitigation strategies that balance the social, economic and environmental interests for the long-term sustainability of people, land and water.

3. **Analysis of population and secondary data:** Available data and strategic documents were reviewed to present a demographic and population profile of the Bay of Plenty, and also reviewed reporting on water quality in the region from a health perspective. These were supplemented by geographic mapping of the region.
4. **Key informant interviews:** A process of key informant interviews (a mixture of telephone and face to face) was undertaken at territorial authority and community levels in the Bay of Plenty, to understand the scope of potential social and economic impacts of the proposals. The intention was to obtain a credible breadth of opinion to reflect a broad range of views on potential

impacts, whilst balancing the time and resource constraints with this project.

Interviewees were:

- **Māori and other community stakeholders:** A series of interviews were undertaken with Bay of Plenty Māori and other community organisations offering different perspectives on water management issues. They included representatives from community centres and budget advisory services, iwi organisations, kaitiaki representatives and other interested parties.
- **Territorial authority stakeholder interviews:** Representatives of six Bay of Plenty territorial authorities were interviewed, along with the Bay of Plenty Regional Council, exploring the opportunities and challenges of implementing the water management aspects of the RPS, and potential strategies for achieving the sustainable management aims of the RPS, alongside the broader social and economic objectives of the territorial authorities.

The findings from these components were synthesised in this report, in order to discuss the potential social and economic impacts, so as to inform the final phase of policy development and decision-making within the regional council.

4. BAY OF PLENTY PROFILE

4.1 POPULATION DATA

4.1.1 Population

In 2007, the Bay of Plenty region had an estimated population of 267,600 people. The largest district in the region is Tauranga City (108,800), followed by the Rotorua District (68,000). Smaller numbers live in the Western Bay of Plenty District (43,800), Whakatane District (34,400), Opotiki District (9,130) and Kawerau District (7,070).

Table 1 below shows the changes in the populations of each of the region's district councils. The table shows significant growth in Western Bay of Plenty and Tauranga, and static or declining populations in other areas (Bay of Plenty Regional Council 2010).

Table 1: Population changes 1996, 2001 and 2006 Census

Area	1996	2001	% change 1996-2001	2006	% change 2001-2006
Western Bay of Plenty District	34,962	38,226	9%	42,075	10%
Tauranga City	77,781	90,912	17%	103,632	14%
Rotorua District	61,032	61,041	0%	62,289	2%
Whakatane District	33,177	32,865	-1%	33,300	1%
Kawerau District	7,827	6,975	-11%	6,924	1%
Opotiki District	9,321	9,150	-2%	8,976	-2%

The Bay of Plenty has the second fastest projected population growth rate of all the regions in New Zealand, at 1.2% per year until 2031. The region's population is estimated to reach 326,200 in 2031 (Bay of Plenty Regional Council 2008a).

Table 2: Bay of Plenty Population Projections to 2031

City/District	Projected population 2031	Annual % change from 2006
Western Bay of Plenty District	62,000	1.4
Tauranga City	170,900	1.9
Rotorua District	78,400	0.6
Whakatane District	37,700	0.4
Kawerau District	6,700	-0.3
Opotiki District	10,500	0.5
Bay of Plenty Region	326,200	1.2

4.1.2 Ethnicity

The Bay of Plenty has a relatively high Māori population. In the 2006 Census, two-thirds of the population identified as European (64%), and more than one in four (26%, or 68,000 people) as Māori. The region's Māori population ranks third in size out of the 16 regions in New Zealand. Other ethnic groups in the region are Asian (3%), Pacific peoples (3%) and other (13%) (Bay of Plenty Regional Council 2010).

Table 3 below highlights that the regional level population mix masks considerable diversity in population across the region's districts. For example, Māori are only 16% of the population in Tauranga and Western Bay of Plenty, yet are more than half the population in Kawerau and Opotiki. However, although Māori are a lower percentage of the Tauranga population, there are still many more Māori in Tauranga (approximately 16,600) than in Whakatane (13,300), Kawerau (4,100) and Opotiki (4,800).

It is also worth noting that Māori identity in the region is not simply as Māori, but also as members of the 33 iwi that are from the region, together with many hapū.

Table 3: Ethnic composition, Bay of Plenty Region, 2006 Census

District	European	Māori	Other
Western Bay of Plenty District	69%	16%	18%
Tauranga City	72%	16%	19%
Rotorua District	57%	35%	19%
Whakatane District	55%	40%	13%
Kawerau District	45%	59%	11%
Opotiki District	44%	54%	11%
Bay of Plenty	64%	26%	18%
New Zealand	65%	14%	27%

4.1.3 Age distribution

The Bay of Plenty has a slightly older population profile, compared to the national population:

- The median age is 37.8 years for people in Bay of Plenty Region. For New Zealand as a whole, the median age is 35.9 years.
- 15% of people in Bay of Plenty Region are aged 65 years and over, compared with 12% of the total New Zealand population.

- 23% of people are aged under 15 years in Bay of Plenty Region, compared with 22% for all of New Zealand.

However, the Māori population has a significantly younger age profile in the region, consistent with the Māori population nationally:

- The median age of Māori is 23.4 years in Bay of Plenty Region, compared with a median of 22.7 years for all Māori in New Zealand.
- 5% of Māori are aged 65 years and over in Bay of Plenty Region, compared with 4% of New Zealand's Māori population.
- 36% of Māori in Bay of Plenty Region are aged under 15 years, compared with 35% for all Māori in New Zealand (Statistics New Zealand 2007).

4.1.4 Deprivation

The New Zealand deprivation index combines nine variables from the 2006 Census reflecting dimensions of material and social deprivation. These dimensions reflect lack of income, communication, employment, transport, qualifications, support, living space and an owned home. The index rates census meshblocks and census area units across a continuum from low levels of deprivation (rating 1) to high levels of deprivation (rating 10).

Table 4 below shows the spread of deprivation scores across the Bay of Plenty. Nationally, each deprivation decile is spread across 10% of the population; table 4 indicates that at a general population level, the region has relatively higher levels of deprivation than nationally. Māori are substantially more likely to live in high deprivation areas: 53% of Māori in the Bay of Plenty live in areas with deprivation ratings 9 and 10, compared to 27% of the general population. Only 5% of Māori in the region live in the least deprived areas (ratings 1 and 2), compared to 14% of the general population.

Table 4: NZ Index of Deprivation 2006, Bay of Plenty

NZDep 2006 decile rating	Māori population	Total population	% Māori	% General
1	1,230	16,035	2%	6%
2	1,938	21,057	3%	8%
3	2,535	23,610	4%	9%
4	2,514	20,868	4%	8%
5	3,000	23,103	4%	9%
6	4,905	26,214	7%	10%

7	6,336	26,154	9%	10%
8	8,919	28,974	13%	11%
9	13,965	34,374	21%	13%
10	21,396	36,261	32%	14%
Total	66,738	256,650		

Note: Nationally, 10% of the population reside in each NZ Deprivation decile; the above table therefore indicates that relatively more people live in high deprivation areas in the Bay of Plenty than the national distribution.

4.1.5 Other demographic data

Population reporting by the Bay of Plenty Regional Council highlights the following population characteristics:

- In 2006, 50% of household occupiers in the region owned or partly owned their homes. This was a marked decrease from the 2001 figure of 65%.
- In 2006, 118,470 people aged 15 years and over were engaged in either full-time or part-time paid employment. This was an 18% increase from the 2001 figure of 100,746.
- The region had a higher proportion of people in 2006 with no formal qualifications (26%) when compared with New Zealand (22%).
- The median personal income of Bay of Plenty residents aged 15 years and over in 2006 was \$22,600 per annum, compared with \$24,400 for New Zealand overall (Bay of Plenty Regional Council 2010).

4.2 ECONOMIC DIRECTION OF REGION

The Bay of Plenty Economic Growth Strategy draws attention to a range of features of the region's economic profile:

- Relatively higher levels of unemployment in the region than nationally
- Lower proportion of high incomes (greater than \$70,000) and higher proportions of low incomes (less than \$25,000)
- A regional GDP in 2006 of \$10.45 billion, with key contributors to the economy being business property services (18%), manufacturing (17%), retail trade (8%), and agriculture, construction and wholesale trade (7% each).

- Economic strengths of the region that include proximity to Auckland and associated markets; desirable lifestyle area in which to live, work and play; and improving transport linkages to adjacent regions. Opportunities include building on accessibility of the region to deep water for both port and marine activities
- A key concern of the region is the low wage economy and a need for enhanced tertiary education provision and skills (Bay of Plenty Regional Council 2008b)

Water is an issue that is recognised as a key enabler of economic growth in the region. In relation to water issues, the strategy notes:

- The presence in the region of the largest export sea port in New Zealand, with capacity for expansion
- The long and accessible coastline
- Harnessing marine resources for future economic development, such as aquaculture, and productive deep water for aquaculture
- Use of hydro and geothermal resources for development of energy and other economic activities
- Proximity of industrial land to deep water.

A 2009 analysis of the Māori asset base in the region found an asset base of \$6-9 billion, with 32% of the land in the Bay of Plenty region is in Māori ownership (695k ha of 2.183k ha). Māori businesses had \$2.3 billion worth of assets in 2006, primarily in business services & property, farming, forestry & fishing, transport & communications, and processing & manufacturing. Constraints identified for development were the availability of capital for investment; the capacity and capability for development (management skill set required); and the lack of information around land use.¹

Key economic priorities for the region, of relevance to this SEIA, include the following:

- Aquaculture development, including construction of a harbour entrance at Opotiki
- Māori economic development, such as partnerships between public agencies and iwi to foster economic development opportunities
- Food culture and processing
- Marine industry development (Bay of Plenty Regional Council 2008b).

¹ See http://www.priorityone.co.nz/berl_economic_profile_of_maori_in_the_region

4.3 WATER QUALITY

From a social and health impact perspective, the waterways and coast of the Bay of Plenty are important venues for recreation and food gathering. The quality of these water environments can have potentially significant human health impacts. There is no reliable data available on the human health impacts of pollution in the waterways in the region; however, reporting by the Regional Council and other organisations give some pointers towards this being an issue of concern. For example:

- Water quality monitoring in Bay of Plenty rivers between 1998 and 2008 showed declining water quality of many rivers and streams:
 - This included five sites with increasing trends in suspended solids and 10 with increasing turbidity (some improvements were noted however in the Tarawera and Nukuhou Rivers).
 - There were 12 sites with significant increases in total nitrogen and oxides of nitrogen. These trends were in catchments dominated by pastoral agriculture. However, some stream sites influenced by pastoral activity have decreasing trends total nitrogen (e.g. the Waimana and the Nukuhou).
 - Many of the Rotorua and central rivers group have elevated nitrogen and phosphorus levels compared to the guidelines for nutrient contamination.
 - The greatest number of increasing trends (at 15 sites) was found for the indicator bacteria *Escherichia coli*. This indicates increasing faecal contamination and increased risk to people using these waterways for recreation or water supply.
 - Just two decreasing trends were found for the bacterial indicators, these were meaningful decreasing trends for Enterococci and faecal coliforms in the Kaituna River at Te Matai (Scholes & McIntosh 2009).
- Recreational water monitoring in Tauranga Harbour and Waihi Estuary in 2009 identified contamination events which could result in pathogenic bacteria and viruses being present at harmful levels in shellfish. Furthermore, the research suggests that shellfish may not be safe to eat even when the bacterial quality is within currently accepted microbiological limits (Scholes et al 2009).

4.4 DEMOGRAPHIC MAPPING

To support this SEIA, Synergia commissioned a series of GIS maps that describe spatially the population patterns of the region:

- Figure 1 (page 21) displays the distance to a significant freshwater feature (either less than or greater to 250m from large lakes or rivers with three or more tributaries) across different parts of the region; this map has been included by way of highlighting the pervasiveness of water as a feature of resident's lives in the region. As is clear from all the maps, the coastline is a significant feature across many population centres in the region – the coastal perimeter in the region is 688 kilometres long, with 259 kilometres of open coast and 369 kilometres of estuary.
- Figures 2 (page 22) and 3 (page 23) display the meshblock population and population density for the general population.
- Figures 4 (page 24) and 5 (page 25) displays the meshblock population and population density for the Māori population.
- Figure 6 (page 26) displays the Māori population density across the region as a 'surface' (a more graduated scale of presentation than meshblocks), as a way of highlighting the contrasts between smaller and larger settlements in the region where there are Māori populations.
- Figure 7 (page 27) displays the distribution of meshblocks categorised by the New Zealand Index of deprivation; the green areas are higher deprivation and the purple areas are lower deprivation. The inset maps reveal high deprivation neighbourhoods in all urban centres in the region, and not just in the rural areas.
- Figure 8 (page 28) is a cartogram, showing levels of deprivation. The size of the areas have been enlarged or reduced according to the size of the population (i.e. the greater the population, the larger the size of the area); the effect of this is to highlight the presence of high deprivation areas in urban areas (particularly Rotorua and Tauranga), which is masked by the standard mapping formats – which tend to suggest an affluent east vs poorer west in the Bay of Plenty region.

Figure 1: Access to freshwater features

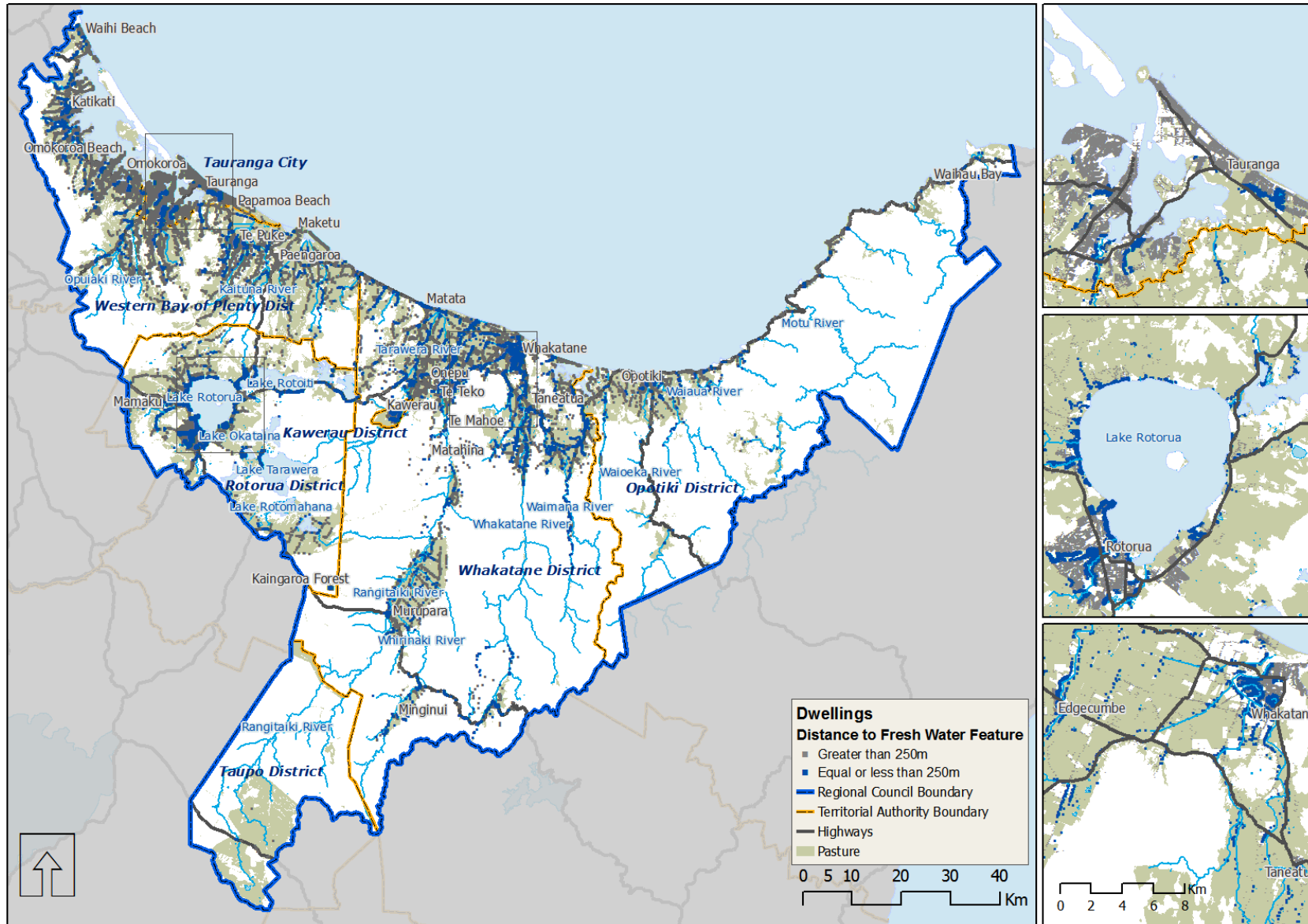


Figure 2: Total Resident Population by Census Meshblock (2006)

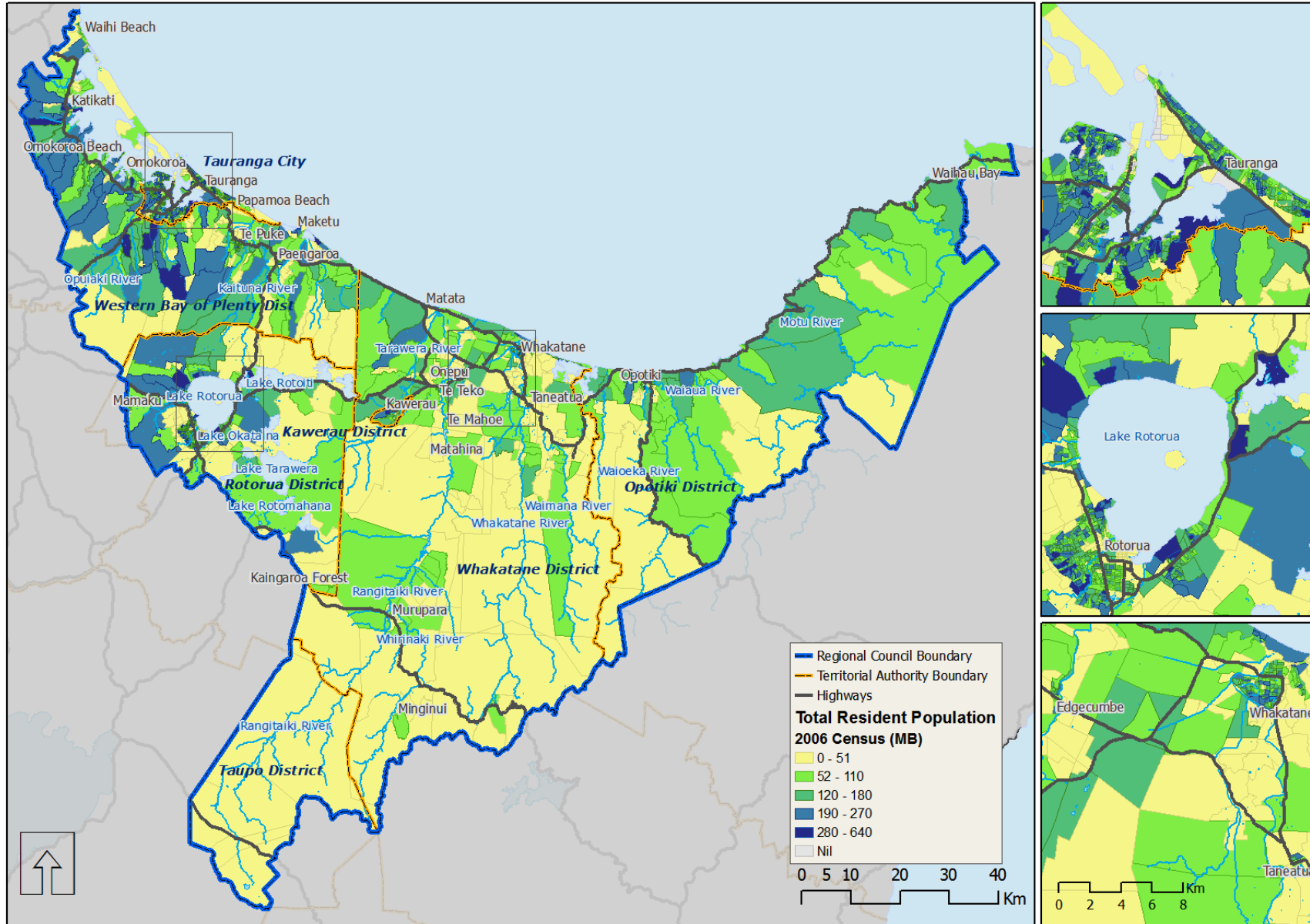


Figure 3: General Population Density by Census Meshblock (2006)

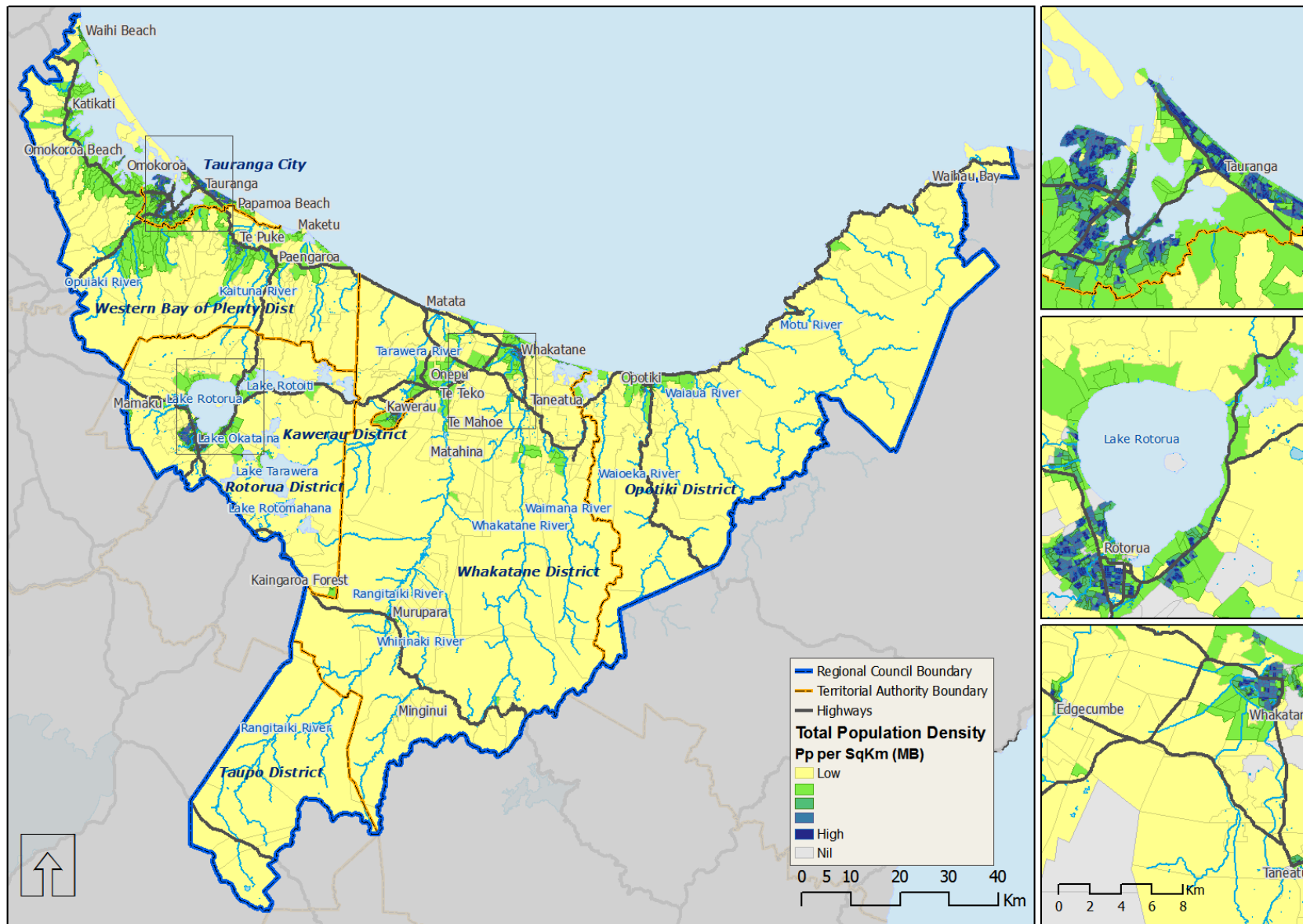


Figure 4: Māori Resident Population by Census Meshblock (2006)

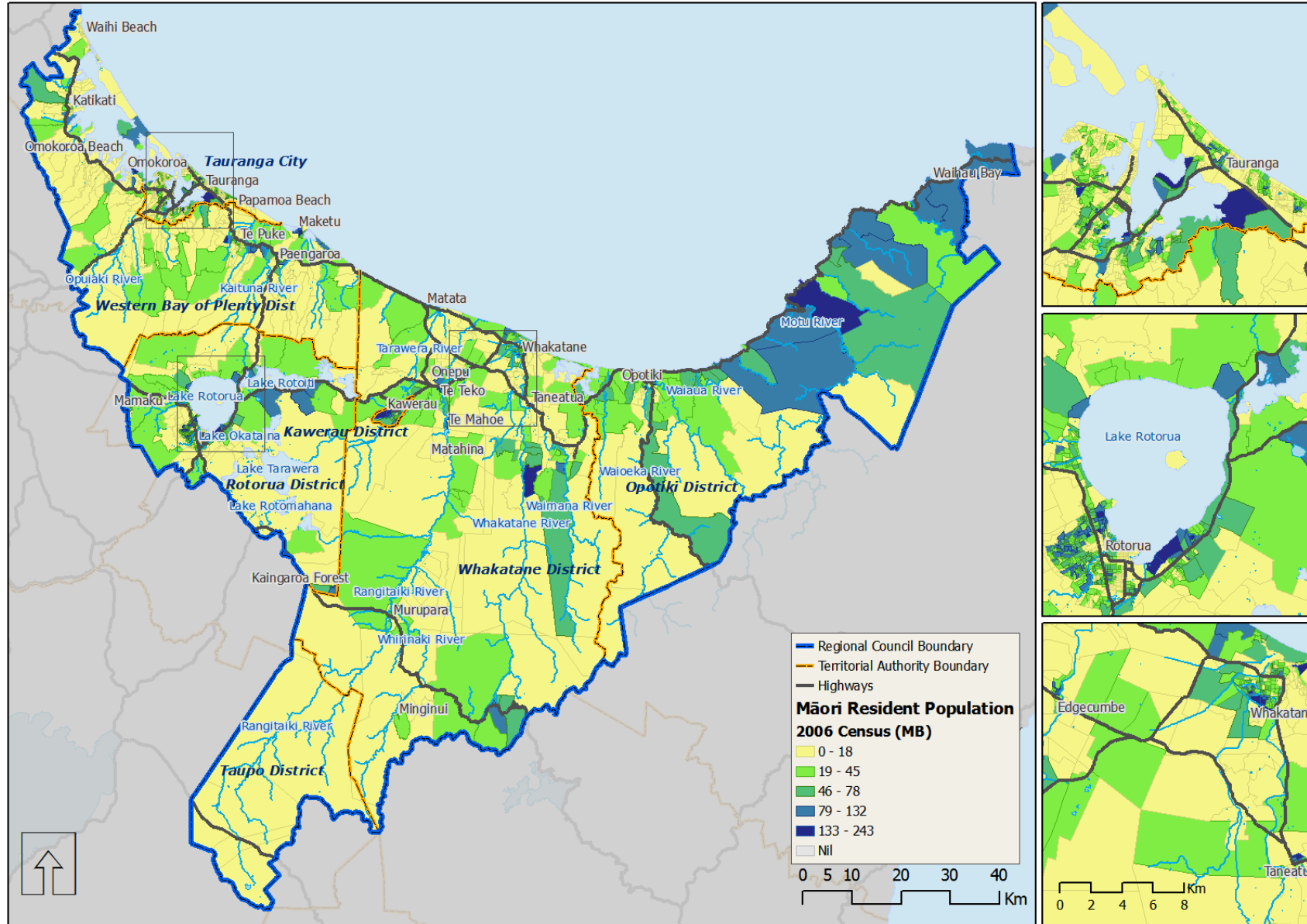


Figure 5: Māori Population Density by Census Meshblock (2006)

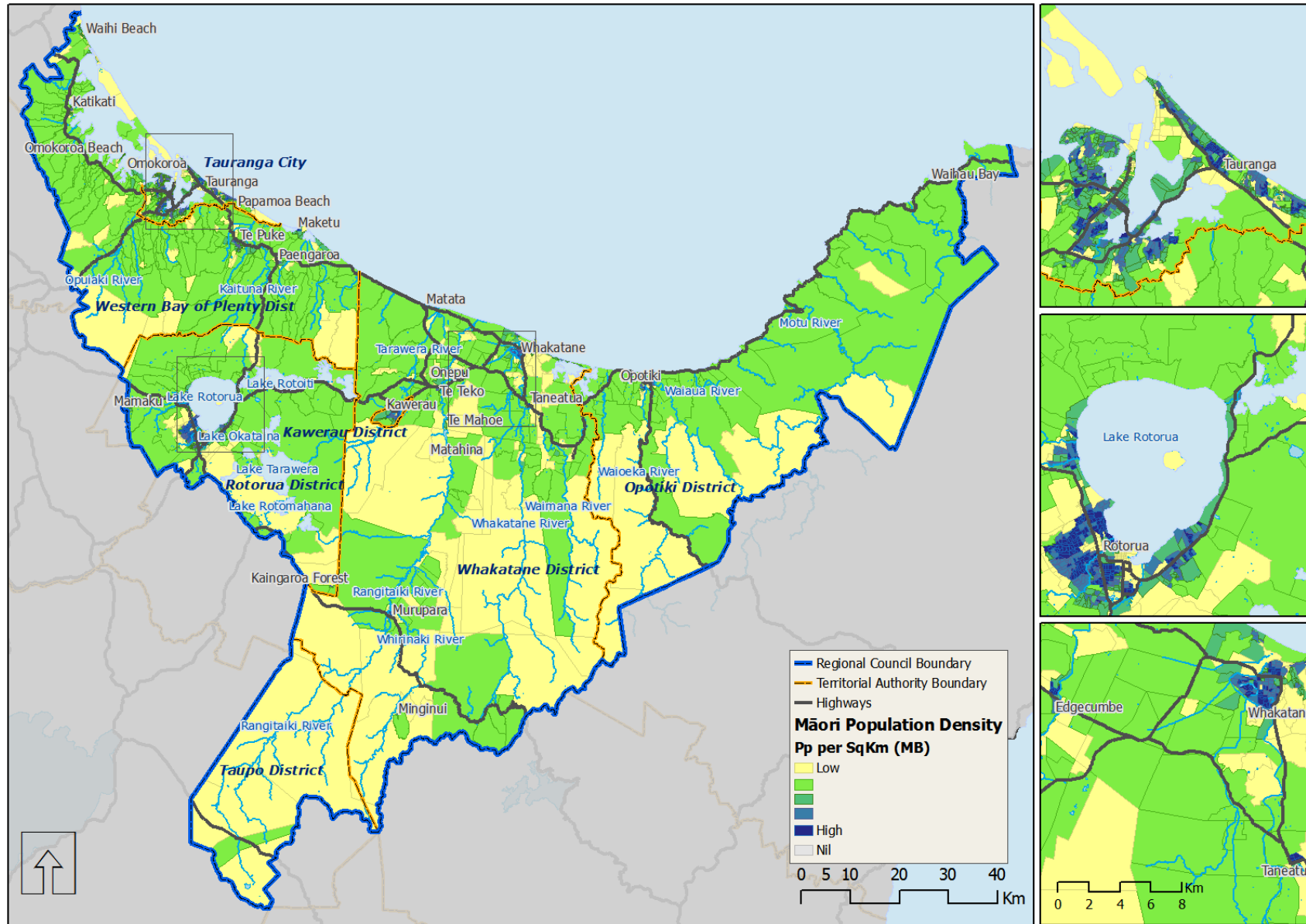


Figure 6: Māori Population Density (surface projection)

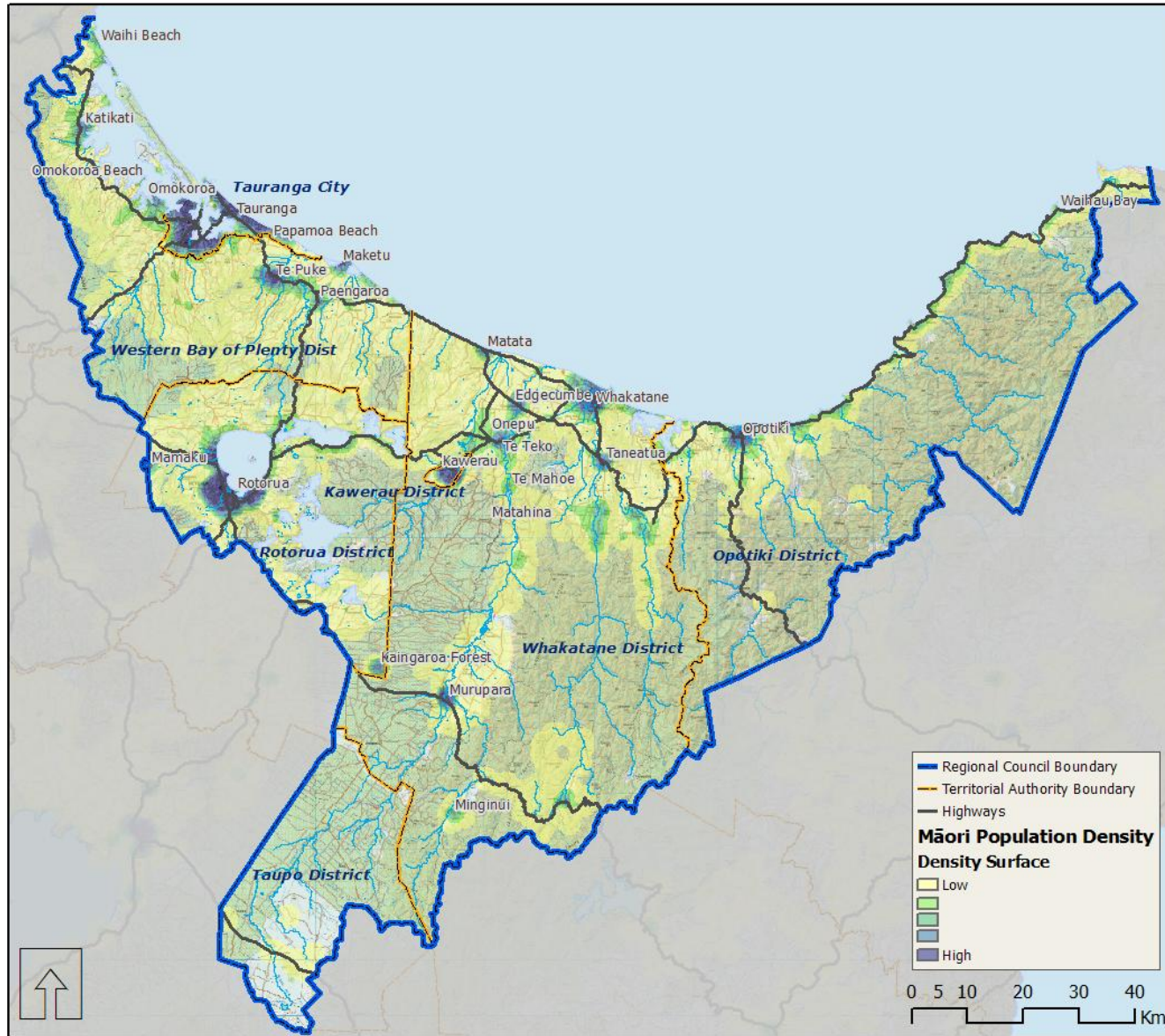


Figure 7: New Zealand Index of Deprivation Deciles (2006, Census Meshblocks)

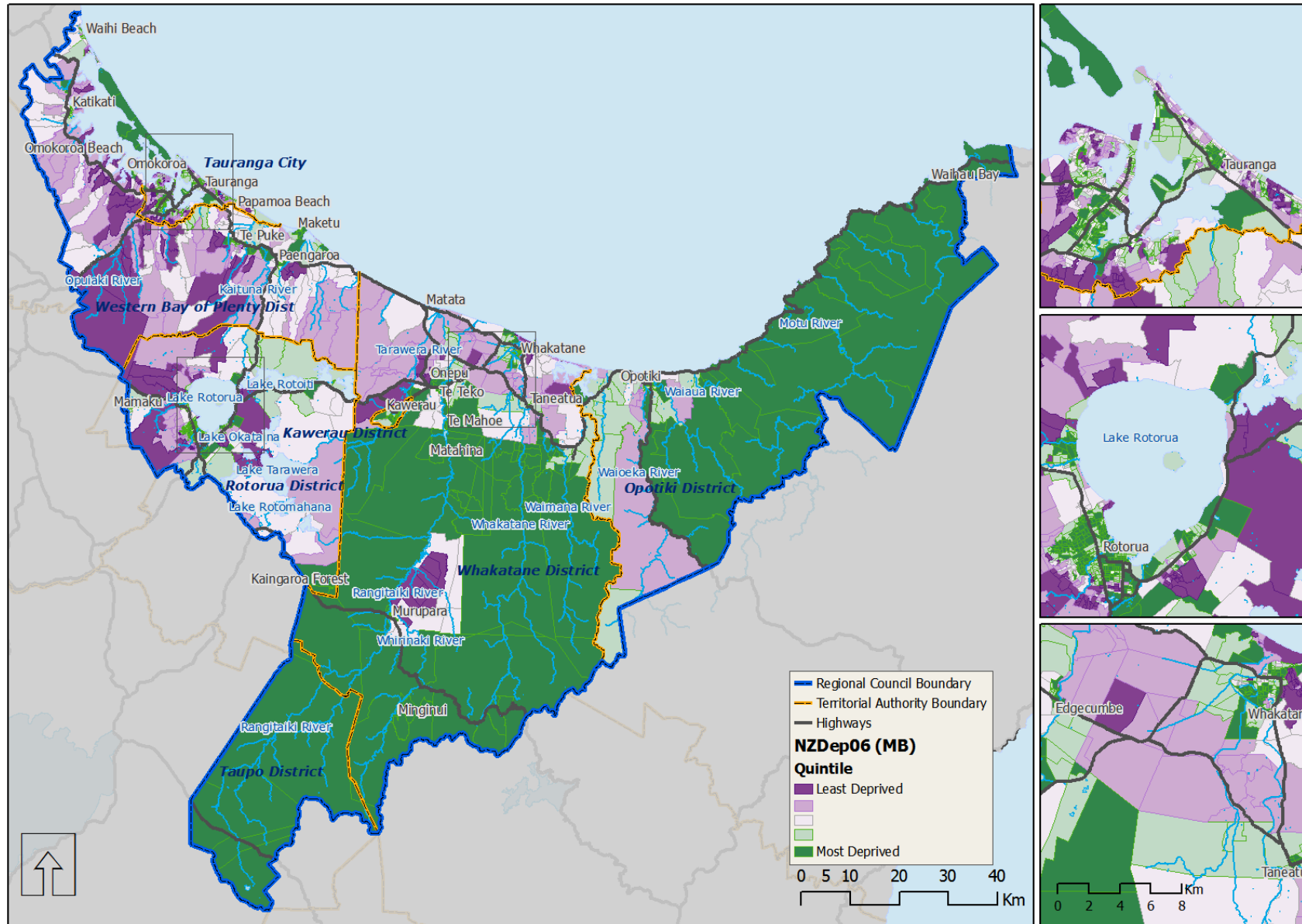
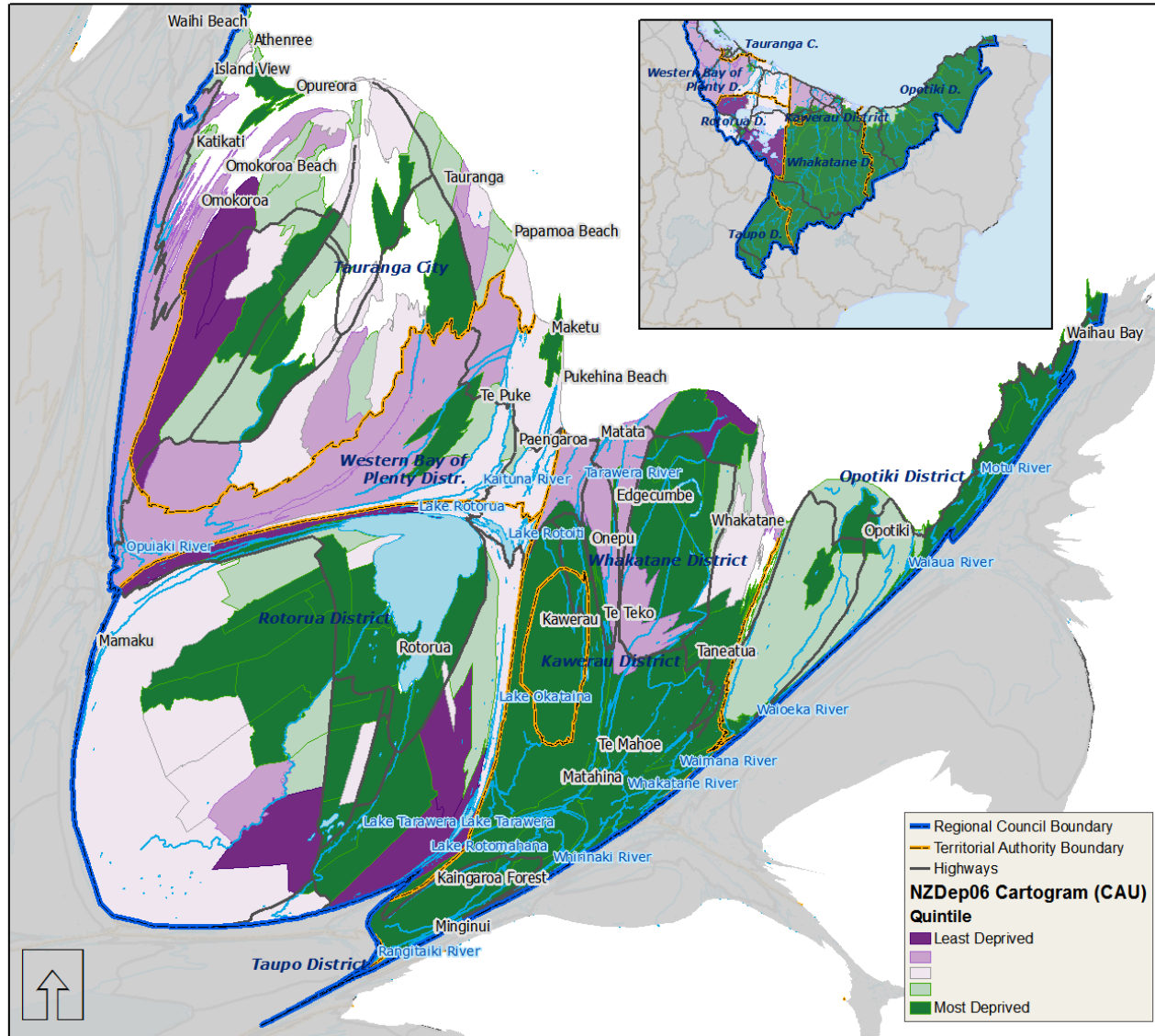


Figure 8: Cartogram of New Zealand Deprivation Index Deciles (2006, Census Area Units)



5. IDENTIFIED IMPACTS FROM OTHER SOCIAL IMPACT ASSESSMENTS IN NEW ZEALAND

In New Zealand, a range of social and economic impact assessments have been undertaken examining water and coastal management issues, either as standalone research, or as part of wider resource management or planning processes. For the purposes of this report, we have examined the findings of SEIAs from the following activities:

- Changes in irrigation land use, such as in the Tasman and Canterbury regions
- Allocations of water resources (such as for hydro-electric activities on the Waitaki and Mokihunui Rivers)
- Water quality management in Taupo and Rotorua Lakes.
- Marine reserves
- Aquaculture development

5.1.1 Physical impacts

Common across many SEIAs are the physical impacts that arise from construction of water-related developments, such as irrigation and hydro-electric schemes. These can include noise, heavy traffic movements and dust, with social consequences for nearby residents, including stress (Taylor et al 2003). Whilst construction is always temporary (but often lengthy), the development of infrastructure can also have long-term impacts such as increased traffic flows, and the noise/safety issues that can arise with this.

Along with construction projects, the shift to intensified dairy production creates pressures on the physical infrastructure of an area, with small rural roads and bridges needing upgrading to cope with the heavy tanker traffic.

5.1.2 Amenity and recreational impacts

Changes to surface water levels, or nutrient discharges of waters, creates conflict between users over the use of water resources, with recreation users particularly affected. Abstraction of water can impact on recreational uses downstream, and the addition of fertilisers and nutrient discharges (including animal waste) affect both ground and surface water quality (Taylor et al 2003).

A key concern of many water-related projects are their adverse impacts on such recreational activities as whitebaiting, fishing, swimming and holiday-making. Such activities can also create vegetation encroachment on the edges of rivers, limiting access. Some impact assessments have however been able to point to improved amenity in some rivers from hydro schemes, as a result of improved flow and stability (Rob Greenaway & Associates & Boffa Miskell 2006).

Irrigation schemes and hydroelectric projects have often been criticised for the loss of amenity values for residents who have chosen to live in rural areas for lifestyle reasons (Taylor et al 2003).

5.1.3 Economic impacts

Economic benefits are a key driver of any proposal or initiative that seeks to make use of the resources of a region, and economic costs and benefits are frequently explored in detail. Aquaculture and related infrastructure, for example, have been highlighted for their economic benefits:

- Locally, the proposed harbour development at Opotiki is expected to reap benefits ranging from 2.7m per annum to \$34.6 million per annum (representing 23% of the current Opotiki region GDP); and with employment benefits ranging from 72 new employment position to 936 positions if a processing plant is established (Stratton et al 2005).
- Aquaculture has been estimated at contributing \$27 million to the Waikato's annual GDP, including 270 full-time equivalent positions directly, and a further 100 jobs in related activities/industries (Irvine et al 2007).

Similarly, irrigation and hydroelectric schemes have pointed to a range of benefits, including economic diversification, employment growth and building the economic viability of nearby townships (Brown & Harris 2005). Conversely, the requirement of national or local regulations meet environmental standards is cited as a barrier to economic development, such as for the farming sector (Botha & Parminter 2006).

Against the cited positive economic impacts of resource developments are concerns about economic impacts in others areas, such as the effect any loss of visual amenity may have on tourism and recreation (Ministry of Fisheries 2010), or the impact of pollution on other water users (including drinking water and fishing), and the economic costs that these incur.

5.1.4 Social stress and dislocation

Substantial infrastructural projects, such as geothermal, irrigation and hydroelectric projects often require workers from diverse areas and a wide labour market to come to a rural area, requiring adaptation by communities to the new populations. There is a need to manage these influxes effectively to avoid potential adverse social effects (Taylor Baines and Associates 2008, Taylor et al 2003).

Some researchers have highlighted a challenge with the economic benefits of many significant infrastructure projects (such as hydroelectric projects) being derived at regional and national levels, while negative social impacts can be experienced regionally and locally. There is a need for the potential impacts on communities to be projected, mitigated, monitored and managed for the communities most affected. SEIA practitioners have called for the benefits to the local community (such as employment, business turnover, local amenities) to be maximised and the costs (such as negative environmental effects and social stress) minimised (Taylor et al 2004).

Research by Neels Botha and colleagues have highlighted the mental stresses that compliance (or the spectre of compliance) with environmental standards has brought about among some farmers, and the resistance to change from well-established practices (Botha & Parminter 2006, Roth et al 2011, submitted).

6. ISSUES RAISED IN DRAFT RPS SUBMISSIONS ON KEY POLICY AREAS

To help frame the assessment further, and as a background to the discussions with stakeholders, we reviewed submissions on the draft RPS received by the regional council in November 2010. In those submissions where social and economic impacts were identified, the most common focus related to water quality, water quantity, the coastal environment and iwi resource management.

Appendix 2 (page 70) details the social and economic issues raised by submitters to the RPS. These are summarised here.

6.1.1 Water quality

Many of the social impacts discussed by submitters around the issues of water quality related to the quality of water impacting on people's quality of life, health and well being. Some of the comments focussed on improving the water quality for recreational use and food gathering, including the following:

- Recognising economic importance of water, along with water's environmental, cultural, health and recreational values.
- Ensuring the supply of good quality water for certain industrial/commercial uses.
- Potential economic impacts of strengthening the regulatory framework regarding dairying in at-risk catchments, including staged nutrient reductions.
- Reducing sediment runoff into waterways from land use activities, to reduce heavy metal and microbiological contaminants entering water which may be used for drinking, food gathering or recreational activities.
- Advocating a 'bottom line' requirement for water quality to be maintained and enhanced when determining the best use of land and water, to ensure that indigenous freshwater fisheries and recreational values are protected and restored.

Other comments highlighted water quality in the light of balancing the impacts on social and economic impacts. One submission stressed the importance of

"...an integrated approach to water resources to address both issues of quantity and quality. Management of natural resources such as soils and water are activities are inseparable from economy and society."

6.1.2 Water quantity

Many of the impacts relating to water quantity were about securing water supply for a range of purposes, including commercial, domestic and community purposes, including the following:

- Recognition of the importance of primary and secondary industry to the regional economy and society and its reliance on freshwater resources.
- Maintaining flexibility in resource consents to support certain land uses such as aggregate mining
- Providing certainty in agricultural and urban/industrial development and growth

Some of the comments also highlighted the need or support policies regarding storage and alternative water extraction methods to ensure future supply of water resources, as well as other water conservation measures for households such as rainwater storage and grey water reuse.

6.1.3 Coastal environment

Issues raised in relation to the coastal environment included

- The economic importance of the Bay of Plenty's conservancy's harbours and estuaries, which nurture many important fish species, including commercially valuable kahawai, snapper, trevally, gurnard, flounder, whitebait and eel.
- The need for best practice land management to be applied in catchments for maintenance and enhancement of water quality of Tauranga Harbour; the effects of sedimentation of Tauranga Harbour, given the recreational, food gathering and economic use of harbour.
- Supporting aquaculture development, including many submitters who advocated its importance as a tool for Māori economic development

6.1.4 Iwi/Māori resource management issues

Some of the themes raised by iwi submissions to the RPS included the following

- Participation and consultation, particularly the process for Māori and iwi involvement in RPS, including such issues as co-management, recognition of iwi management plans, and hazard management, particularly flooding
- The enduring links of iwi and communities to lakes, waterways and coasts, and associated link with wellbeing

- Recognition of kaitiakitanga and Te Tiriti o Waitangi principles
- Building capacity and capability of Māori to build sustainable economic potential from water and coastal resources
- Developing multiple-owned Māori land and securing economic development, and enabling Māori aspirations
- The impact of 'under-management' of waterways on social and economic development and 'failure to thrive'
- Water, land, coastal and geothermal resource management decisions take into account iwi resource management planning
- Protecting sites of cultural significance
- Access to water for recreation and food, including protecting native fish species from introduced predators (e.g. indigenous tuna from trout)
- Sustaining the mauri of water, land, air and geothermal resources; and improving where degraded.

Another gave support to the recognition of the significance of the coastal environment to Māori:

"Support highlighting strong links tangata whenua have to the coastal environment. Maketu estuary, known as the food basket of Te Arawa and the associated waterways support high ecological values and it significant to the community"

7. IMPACTS IDENTIFIED THROUGH STAKEHOLDER CONSULTATION

This section details the responses of stakeholders to the directions proposed by the Bay of Plenty RPS. For each of the seven key policy areas, the concerns that motivated the policy, and the proposed policy itself, are detailed. These are followed by discussion of the impacts identified by stakeholders and potential directions forward.

7.1 DEFINING CATCHMENTS AT RISK (WL2B)

Issues of concern which the RPS seeks to address:

- Decline in water quality from land use
- Pressure on finite water resources
- Competing demands

Proposed RPS policy responses:

- Control contaminant discharges in the following catchments at risk: Lakes Rotoiti, Rotorua, Rotoehu, Okaro, Okareka, Rotoma, Okataina, Tarawera, Tikitapu, Rotokakahi, Rerewhakaaitu and Rotomahana
- The catchments of other water bodies to be defined in the Regional Water and Land Plan, having regard to whether they have significant cultural and/or ecological values that may be adversely affected by land use or land-use change or have limited assimilative capacity to accommodate nutrients without affecting those values
- Policy requires establishment of contaminant discharge limits; resource consent where land use change increases contaminant discharges; allocation of allowable nutrient discharges among land-use activities; and managed reduction of contaminants in excess of any limits.

Discussions on this policy focused particularly on the following issues:

- Potential constraints on economic development through limiting dairying, particularly for Māori landholders
- Cultural concerns relating to degradation of the water environment

The two concerns listed above reflect a consistent theme of discussions that emerged throughout the SEIA consultation: on the one hand, a desire to be able to reap the economic benefits of the resources of the region, and in so doing yield the social benefits that accrue from greater financial security. On the other hand, there was also a concern about the loss of traditional food sources that for many Māori, was part of

their cultural identity, as a result of change and degradation in water quality in parts of the region; these also have economic impacts. Together, they signify the difficult balancing act that the RPS must manage consistent with s5 of the Resource Management Act, of supporting the region's economic development whilst at the same time ensuring the sustainable use of its resources.

7.1.1 Constraints on economic development

Some Māori stakeholders were concerned about the strengthened regulatory framework for activities that are likely to increase contaminant discharges; this was particularly relevant to dairy farming development, which under the RPS will require resource consent and a staged process of nutrient reduction. One interviewee said

"You don't have to just farm and they are right, we do have many options but not all of them provide the income required to be of value to the owners ... We want them to have the right to choose – to have tino rangatiratanga"

This interviewee said a return to dairying for Te Arawa Māori would provide a financial return, as well as meat and milk for the marae. This could be supported by riparian planting and technological innovations to make dairying more sustainable. Making dairying a consented activity was seen to threaten that potential.

A further concern expressed was that organisations such as Federated Farmers have strategies to reduce run-off in farms, but that many Māori farmers don't have the resource available to undertake such improvements. Another interviewee said that many Māori have been locked into forestry and maize production because that is well-established, and exploration of alternatives are simply too difficult for many. Dairying, in contrast, has emerged and offers a relatively fast transition to a potentially greater income source.

7.1.2 Loss of traditional freshwater food sources

The stakeholder discussions also revealed a significant concern among Māori about the cultural impact of environmental degradation, which gives support to the directions proposed by the RPS. The degradation of fresh water quality in Rotorua lakes and many waterways in the region, such as through farming run-off, urban development and introduced species (such as trout and carp), has led to the loss of indigenous species of flora and fauna. These include watercress, freshwater crayfish, tuna, eels and whitebait. Some also said that some traditional food sources could not be accessed because landowners won't let people cross their land.

The loss of these mahinga kai (traditional food sources) has an economic impact along with the more obvious social-cultural impacts. As one interviewee said, "in hard times, the ability to access mahinga kai is huge". But this also has a cultural impact, because the loss of these food sources leads to a loss of traditions and stories. This theme and potential impacts are repeated across many of the policy areas explored in this SEIA.

Others also talked about the economic importance of clean water sources; as one interviewee said:

"No water, no food, no work, no money."

Water management issues raised by some respondents included:

- Erosion and sedimentation from land use and development
- Draining of wetlands
- Little or no coordinated riparian management over entire catchment
- Lake level control gates affecting in stream in flow dynamic
- Invasive willows established along stream and lake margins, and impacts of willow removal on water quality, water temperature and mahinga kai habitat.

Some interviewees suggested that the cultural health indicators tool, developed by Dr Gail Tipa (Tipa & Tierney 2006), should be encouraged by the RPS and utilised in water management initiatives in lakes and also significant waterways (such as Waimana, Rangitaiki, Ruatoki and Tarawera Rivers).

The example of the Sherry River initiative, near Motueka, was offered by one interviewee as a potential solution to the needs of balancing farming and environmental interests. The initiative is a partnership of landowners, councils and scientists to improve water quality within the 7800 hectare sub-catchment; improvements in farming practice have led to significant improvements in water quality (NZ Landcare Trust 2010).

7.1.3 Summary of identified social and economic impacts: Defining catchments at risk

Issue	Populations affected	Description of impact	Potential mitigation approaches
Constraints on economic development (potential RPS impact)	Farmers, particularly dairy farmers	Constraints on dairying and other activities, limiting economic viability of land development	Support for sustainable farm management planning/systems
Loss of traditional freshwater food sources (environmental concern)	Local Māori populations and recreational fishers	Decline in stocks of traditional fishing; economic and cultural impacts	Environmental planning, monitoring and management that supports rejuvenation of waterways through RPS implementation

7.2 ALLOCATION OF NUTRIENT DISCHARGE LEVELS (WL5B)

Issues of concern which the RPS seeks to address:

- Decline in water quality from land use
- Effects of nutrient discharges on Rotorua Te Arawa Lakes
- Soil health and productivity reduced by unsustainable land management practices

Proposed RPS policy responses:

- Allocate among land use activities the capacity of Rotorua Te Arawa Lakes and other water bodies in catchments at risk to assimilate nutrient discharges within the discharge limits... having regard to the following principles:
 - Equity/fairness, including intergenerational equity
 - Extent of the immediate impact
 - Public private benefit and cost
 - Future vision for landscape
 - Iwi land ownership and its status include any Crown obligation
 - Cultural values
 - Resource use efficiency
 - Existing land use
 - Ease of the transfer allocation

Discussions on this policy area raised similar issues to those explored under 'Defining Catchments at Risk', but it also raised wider issues, particularly:

- Impact of other pollutants in waterways, and cost to communities of dealing with water pollutants
- Recreational and food gathering water use impacts
- Health impacts
- Concerns regarding the practical implementation of the policy, such as feasibility of demand for subdivisions

7.2.1 Impacts and costs of broad range of pollutants

There was general recognition by interviewees on this subject that dairying is a significant contributor to declining water quality in the region. Some however, pointed to the contribution of other activities to water quality, including industry (such as the impact of the Kawerau mill on the Tarawera River), urban development (from both ground/road run-off and sewage), and horticulture.

Some interviewees questioned why dairying is being targeted (and the constraint this will place on economic development), given water quality issues raised by the historic use of fertilisers in agriculture/horticulture and urban waste, particularly in the Rotorua Lakes area.

One local government representative noted the historic legacy of development in the region:

"From an economic perspective, people are mindful of is that the discharge has resulted from a historical economic framework, SMPs, fertiliser incentives, everything that previous Governments had poured into the land to get it up to a good quality has now resulted, there's kind of a latent effect buried in the 40 or 50 years of putting fertiliser on in the 50s and 60s to make this land of pumice work."

However, she also drew attention to the efforts of both district and regional councils in addressing some of these issues; Rotorua has for example undertaken an extensive upgrade of wastewater treatment, with support from central government funding.

A concern raised by many stakeholders was the cost to communities of dealing with river and marine pollutants. Examples were raised of the cost of putting in reticulated sewage in communities such as Edgecumbe and Maketu. For example, an analysis by Western Bay District Council of the costs of putting in reticulated sewage at Maketu and Little Waihi (both areas of high deprivation) have been estimated at adding \$13 per week (or nearly \$700 per year), which for residents on very low incomes is a substantial additional cost (Western Bay of Plenty District Council 2010). Edgecumbe is

a similarly poor area and the additional rating costs were thought to be considerable for this community. Although the issue of how rates are targeted is a district council issue (Whakatane District for instance has a mix of generalised and area-targeted rates), these discussions do highlight the flow-on effect of resource management decisions at the regional level.

Other concerns about the cost borne by low-income communities related to water metering. Discussions with a budget advisory service in Tauranga indicated this is an ongoing concern for many clients; water bills are often the last to be paid and can rapidly assume a significant level of debt. By the time many clients access budget advisory services, the debt has reached hundreds of dollars. Again, this impact is not directly as a result of the RPS, but it does indicate the significance of water as a personal economic wellbeing issue.

One local government representative acknowledged the concern of discharges into rivers by industry, and the need to ensure restoration of degraded water before it enters rivers; the concern of the council was to ensure this is a managed process that does not lead to a rapid loss of industry from the area. There were however no substantial concerns with the direction of the RPS on this issue for this council.

One interviewee spoke of her concerns with pollution in a local river:

"Last Sunday we went up the river...there's a lot of rubbish bags in the tops of trees that flooding has picked up, and also plastic wrapping off the hay bales... The onus is on people working the land to be responsible for the discharge into the waterways, and for the council to monitor that."

She noted that the accumulation of rubbish led to damming which then causes erosion in flood; one marae is now under threat from the nearby river.

Another interviewee said:

"When the water is paru [polluted] your Mauri is paru and so when we look at our people out on the Eastern side that I work with and we look around and we look at what the changed mauri means, it means loss of kai, loss of the ability to swim freely, loss of communal activities within the water, those are all social impacts and when those aren't right people are not right, simple as that. And that's not just our people."

Another said that while the water quality of Lake Rotoiti had been substantially improved as a result of the Ohau diversion wall being constructed, it had moved many of the problems downstream into the Kaituna River. This theme was also picked up by people living near Maketu, at the mouth of the Kaituna, who lamented the degradation of the river and estuarine environment.

7.2.2 Recreational and food gathering impacts

Many interviewees were concerned about the impact of excess nutrients and other pollutants (including rubbish) on recreational and food gathering use of water, such as swimming and fishing. One interviewee described the loss of food chains in the Kaituna River:

"In August, mullet used to go up the river to spawn. We had whitebait, herrings, kahawai, but that food chain is now lost. The wetlands have been taken out, where whitebait used to spawn, and there's a lack of eels too."

Another spoke of impacts on the Wairoa River:

"The river is getting contaminated. The quality of the fish is poor. There are not as many koura or whitebait as there use to be. This river is extremely dangerous for kids to swim in as objects are hidden. Timber from trees drops into the awa, and there are dead animals. The effluent from farming also runs into the river."

"The Ruahihi dam is affecting the river – when we were kids we could run along the banks, now there is mud and we sink."

A third interviewee spoke of the negative impact that introduced predators (particularly trout) have had on tuna stocks.

An interviewee from a budget advisory service said that in the Rotorua district, many of their clients (generally on low incomes) go swimming and fishing in the local lakes, as a free source of recreation. From time to time they raise issues of pollution in the water that negatively impacts on the "free things they can do with the recreation."

7.2.3 Health impacts

A common concern raised by stakeholders was of the health impacts of polluted fresh water sources (validated by river monitoring undertaken by the regional council). This in turn impacts on wellbeing when families get sick with skin infections and stomach bugs. Consequently there is an also the economic cost of having to go to the doctor. As some interviewee said:

"Children swim in our rivers, but it's not a healthy place for them to swim."

"What's on the surface is leaching into underground waterways."

"The Kaituna is a mess, the current fluctuates and the water is muddy. It's not a healthy river, and it used to be a natural part of our lives. Now we don't go down

there. The water level is lower with the build-up of sediment, and the fish catch is down. This is cascading down from Rotorua into the Kaituna."

Local government representatives were in agreement with the need to ensure the quality of fresh water supplies particularly for drinking water.

A concern raised regarding the decline in water quality in rivers and streams is the level of public awareness of the issue. One respondent said that:

"People's awareness/knowledge about the decline in water quality is very low. There are no warnings or public education around how the new strain of E coli is more virulent – and a common whakaaro of people regarding the water: 'My tipuna drank out of the creek, so it must be alright.' "

7.2.4 Practical implementation

Local government representatives were broadly supportive of the general direction of this component of the RPS, but were concerned about some of elements of the practical implementation of the strategy:

- Subdivision is recognised in the RPS as a means of addressing the nutrient discharge concern, where it provides for "positive effects." A concern of Rotorua District was the realistic level of uptake of this option in areas where smaller lifestyle blocks are not in such high demand as coastal areas; and ensuring that this does not lead to loss of productive land or undermines policies that support consolidated urban form.
- The intent of the nutrient discharge policy is to allocate the capacity of the at-risk catchments to assimilate contaminant discharges. A concern that was raised if this will establish a secondary economy of nutrient trading, and how this could/would be managed.

7.2.5 Summary of identified social and economic impacts: Allocation of nutrient discharge levels

Issue	Populations affected	Description of impact	Potential mitigation approaches
Impacts of pollutants (environmental concern)	Any users of waterways	Inhibiting use of waterways	Environmental planning, monitoring and management that supports rejuvenation of waterways through RPS implementation
Costs of infrastructural development (RPS impact)	Areas requiring infrastructure upgrades	Cost of mitigating impacts on low income communities	Access to/information on financial support to meet infrastructure costs (e.g. rating subsidies)
Recreational and food gathering impacts (environmental/social concern)	Any users of waterways	Loss of fishing, food collection, recreational use, amenity value	Environmental planning, monitoring and management that supports rejuvenation of waterways
	Low income communities	Access to waterways as inexpensive food source	
Health impacts (environmental health concern)	Any users of waterways	Potential health impact of polluted freshwater	Environmental planning, monitoring and management that supports rejuvenation of waterways Information on health risks
Practical implementation (RPS impact)	N/A	Feasibility of subdivisions in some areas Potential for nutrient trading	Monitoring and dialogue between regional and district councils on issues as they develop

7.3 WATER ALLOCATION PRINCIPLES (WQ 3B)

<p>Issues of concern which the RPS seeks to address:</p> <ul style="list-style-type: none"> • Pressure on finite water resources • Competing demands • Inefficient use <p>Proposed RPS policy responses:</p> <ul style="list-style-type: none"> • Have regard to the following matters when allocating and reallocating water: <ul style="list-style-type: none"> ○ Ensuring water in a water body is not over allocated ○ Giving priority to making water available to meet existing and reasonably foreseeable municipal water supply needs
--

- The degree of community, regional or national benefit from the taking and use of water as distinct from individual benefit
- The priorities of the community
- The cultural values of a water body
- Requiring efficient use of the resource
- The value of investments that existing consent holders have made
- The availability of water for other uses

Issues raised in relation to these policies focused on the following:

- Concerns regarding municipal water supply protection
- Impacts of water takes on Māori communities and cultural practice

7.3.1 Municipal water supply protection

One of the core principles of the RPS in this area is giving priority to municipal water needs. This was broadly supported by the urban local government representatives. However, some more rural local government representatives questioned if there were sufficient drivers in the RPS towards methods of water collection other than extraction from springs and mountain streams. One interviewee offered these views:

"The key economic driver for... the whole sub-region which includes Tauranga City, is the rural run effectively. And it's not just what the orchardists and the farmers get at the gate, their return, but it's the flow on effect of the people that work in the pack houses, the dairy industry, the engineers and the accountants and the lawyers and everything else that support all that. So if that's the key economic driver for our district then we've got to support that... To help produce from the land, you need water.. Yes we need it for the municipal people as well but then you've got to get into that balancing act and in all the submissions we've made, we've said no, it's not that the municipal has priority over it, it's actually the two have to work together – which means if the municipal side had to get far more diligent in water minimisation, recycling and all the rest of it, then so be it, don't automatically assume because you are in town you've got the automatic right to the water because yes you can get the water, but if our economy dies why bother having a town there?"

One option discussed by some interviewees was for the RPS to put greater emphasis on alternative water collection approaches, including water recycling, rainwater tanks and treating water from larger supplies, such as the Kaituna.

7.3.2 Impacts of water take on Māori communities

Many Māori respondents drew attention to the ability of councils to be able to extract water from springs or mountain streams, sometimes in excess of what is required. For many respondents, these water sources were of highly important cultural significance, and also had practical impacts; one example given was the level of water in the stream flowing through Whakarewarewa village is now often too low for swimming owing to water takes.

Concerns were raised by some Māori interviewees of insufficient protection of waterways of particular spiritual or cultural significance. One example is of wahi tapu located near river/lake/coastal area walking tracks and urupā.

Another example, highlighted by Ngati Rangiwewehi interviewees was the decision of the Environment Court on Taniwha Springs in 2009.² The springs are an important taonga of the iwi which were taken in 1966 under the Public Works Act. The iwi's successful argument in Court was that the district council had failed to adequately investigate alternative groundwater sources, despite there being both technical and economic grounds for such an alternative. The Court then granted a 10-year consent whilst alternative sources were more thoroughly investigated. This case recognised the cultural and spiritual values surrounding water, and the need to ensure other alternatives are appropriately considered. This is concurrent with ongoing Treaty settlement processes that are exploring water rights/ownership issues.

From the discussions with Māori stakeholders, these concerns are not confined to isolated cases such as Taniwha Springs. As another example, Waitaha Runanga respondents were concerned about the consent given to Tauranga City Council from the Waiari Stream, at a level seen as being far in excess of what is needed. The runanga is now looking at co-management of the stream to preserve what remains.

A similar concern was raised with regard to water consents on the Tarawera River. The mill owned some 13 million litres of water rights that it was not using, and at the same time, a nearby Māori farming trust had lost access to river water resource for irrigation. At the time of writing, a process was underway whereby access via the mill was transferring water access rights to the trust. Although this is a pragmatic response to alleviate water shortages for the trust, it raises policy issues of industry owning the water rights as a commodity that they can provide at their discretion.

² Te Maru o Ngati Rangiwewehi v Rotorua District Council A069/2009 NZEnvC 198, 19 August 2009. See <http://www.nzlii.org/cgi-bin/sinodisp/nz/cases/NZEnvC/2009/198.html?query=rotorua>

A further issue is what one interviewee described as a conflict between matauranga (Māori models of knowledge) and Western science. For example, the regional council allows a 10% abstraction rate of mean water flow, based on Western scientific understandings of sustainable abstraction levels. However, in Māori world views, the concept of *tipuna awa* describes an ancestral river, literally a river as an ancestor or physical being. In this outlook, the concern is not merely about how much water is abstracted, but where the water is abstracted from and the cultural impact that this can have.

7.3.3 Summary of identified social and economic impacts: Water allocation principles

Issue	Populations affected	Description of impact	Potential mitigation approaches
Municipal water supply protection (RPS impact)	Rural water users (e.g. horticulture)	Constraining economic development in rural areas	Enhancing alternative supply mechanisms, such as water recycling and treated rainwater tanks
Water rights (RMA/national policy impact)	Māori communities	Excessive water takes, loss of taonga	Strengthening engagement processes with affected iwi on water takes

7.4 MANAGING WATER TAKES TO ENSURE EFFICIENT USE (W8QB)

Issues of concern which the RPS seeks to address:

- Pressure on finite water resources
- Competing demands
- Inefficient use

Proposed RPS policy responses:

- When considering an application for resource consent to take water, regard shall be given to:
 - The extent to which water users have demonstrated a reasonable need for the rates and volumes sought;
 - The extent to which water users have demonstrated that the water will be used efficiently;
 - Specifying the maximum allowable water use as well as maximum abstraction rates;
 - Requiring the consent holder to measure and report the actual amount of water taken;

- Whether water is able to be taken within pressure catchments and aquifers that are nearing over allocation;
- Preventing saltwater intrusion;
- The likely effects of climate change; and
- Establishing and applying a consent term of no more than 15 years, unless the applicant is a Requiring Authority

There were only limited concerns or comments raised by interviewees on this aspect of the RPS. The issues raised had commonalities with those of water allocation principles and issues relating to water contaminants.

Issues discussed included:

- Supporting the rural economy
- Inequity of water takes
- Alternative water collection

7.4.1 Supporting the rural economy

Some respondents, particularly rural local government respondents, were concerned to ensure that water resources are managed to give appropriate support to the rural economy, such as horticulture: in particular, that steps are taken through water conservation, recycling and other means to provide the economic foundation for many rural activities.

7.4.2 Over-allocation of water takes

An underlying concern of some respondents was that whilst the 10% abstraction rate was well understood, it is not clear how much has been allocated from each river, nor if sufficient analysis has been undertaken to say what 10% of the total water flow is. That is to say, is the available knowledge sufficient to be able to sustainably extract water resources? One interviewee was concerned that the amount being allocated was not being appropriately quantified, saying that

"Water is not a single column, it shrinks and grows. You need to know your river so we can quantify the threshold."

Interviewees also raised concerns that the 'first come, first served' basis of water takes, which the Resource Management Act fosters, creates problems for equitable water allocation. A current concern was the competing applications by TrustPower and

Fonterra to take water from the Rangitaiki River, creating significant competition for water consents. The applicators are both seeking to obtain consents before they expire; at the time of writing this issue was before the Environment Court to determine which application should be heard first. Alongside this is a concern that the consent sought by TrustPower would result in multiple peaking, resulting in erosion and scouring of river banks, with adverse impacts on recreational, food gathering and cultural activity on the river.

Another issue raised by a respondent was that when a person leases land from a Māori land owner, then applies for a water right to provide irrigation or other use on that land, at the expiry of the lease the water right goes with the lessee rather than being attached to the land where water was used. This means that Māori land owners can have a loss, that is the lessee has gained a right that would not otherwise have been provided to them had they not had the land associated with the water use activity.

These examples, together with those raised in the previous section (7.4.1) highlight a common concern expressed through comments on the RPS on recognition of Treaty of Waitangi in the RPS implementation, and of kaitiakitanga (guardianship) principles. Some iwi are participating in or pursuing co-management/co-governance approaches to support kaitiakitanga. For other iwi, an important aspect of fulfilling kaitiakitanga and mana motuhake (Māori self rule and determination), is ownership, including ownership of the rivers and springs; one respondent explained that Māori have never ceded rights to make decisions on water resources to the Crown or any agency.

In a related development, Ngati Awa and the Mataatua Assembly are preparing a declaration on water. This will include a recommendation that applications for consent to use, gain access to and occupy space within water must include a process for iwi/hapū with relationships with those water bodies to assess and recommend an approval or decline of those applications. The process also provides for integration of the assessments of iwi/hapū with those of Council.

These multiple pressures on a limited water resource has contributed to calls from people in the area for more integrated approaches to water management, along with a clearer understanding of the consented and non-consented activities to determine what volume of water can be taken to support the economic wellbeing of the community. It was suggested by some respondents that the RPS could foster improved cooperative management of water resources within communities.

7.4.3 Alternative water collection

Increased and rapid flooding, creating large amounts of stormwater discharge into lakes, streams and rivers is becoming more frequent, and affecting water supply.

Alongside this is the likely impact of climate change (acknowledged in the RPS) in increasing the frequency of drought and placing further pressure on water supplies. Access to alternative water supplies therefore becomes an important issue.

Marae in rural areas, including many places along the coast to Te Kaha as well as inland, are on tanks supplied by rainwater and/or puna (springs). For people in these areas, tank water is the only supply source and it costs \$250 to refill a tank, which can be a significant outlay for poorer families.

For example, the marae at Whitianga uses water from a small dam above the marae. The water which is piped down to the marae is utilised for cooking, drinking, showering and cleaning. The marae hosts a number of whānau hui and events and is pivotal within the community and the many whānau and hapū members who travel from Opotiki, Kawerau and beyond.

The previous government made the TAPS scheme (a drinking water subsidy to help small/disadvantaged communities improve supplies) available to communities, providing some resource to support communities to improve their water takes, storage and water quality. For example, this enabled the Whanarua community to become involved in the maintenance and management of their drinking water. However, changes were made to the programme, which meant that the communities now must pay 15% of the cost (previously 5%). This was thought to be out of reach for many of the small communities along the coast. Marae were previously able to apply for the scheme subsidy, but many marae are no longer able to be funded by the drinking water assistance programme.³

The increased water demand resulting from urban growth was a further issue. It was felt that more education/support is needed by the community to ensure alternative ways in which water can be conserved, and to reduce the demand for extraction from culturally significant streams and springs (and at greater volumes than is required).

³ Under revised criteria for drinking water subsidies issued in 2010, community organisations that charge fees are excluded from qualifying.

7.4.4 Summary of identified social and economic impacts: Managing water takes to ensure efficient use

Issue	Populations affected	Description of impact	Potential mitigation approaches
Municipal water supply protection (RPS impact)	Rural water users (e.g. horticulture)	Constraining economic development in rural areas	Water recycling, rainwater tanks and treating water from larger supplies
Protection of waterways of cultural significance (potential RPS impact)	Māori communities	Excessive water takes, loss of taonga	Strengthening engagement processes with affected iwi on water takes
Over-allocation of water takes (RMA impact)	Rural communities	'First come first served' and excessive water takes constraining access to water resources	Fostering more integrated solutions to water allocation through RPS implementation Promotion of alternative water supply
Access to safe drinking water	Low income rural communities	Loss of access to TAPS subsidies/higher contribution needed for TAPS scheme	Advocacy on national policy to improve access to TAPS programme

7.5 MANAGING ADVERSE EFFECTS OF LAND-BASED ACTIVITIES ON MARINE WATER QUALITY (CE9B)

<p>Issues of concern which the RPS seeks to address:</p> <ul style="list-style-type: none"> • Adverse effects from land use and development on the coastal environment • Effects of sedimentation on harbours <p>Proposed RPS policy responses:</p> <ul style="list-style-type: none"> • Minimising the generation and discharge of sediment and nutrient leaching • Minimising the creation of impervious surface areas • Minimising other contaminants in stormwater that discharges into water or on to land that may enter water, including discharges to existing and new stormwater infrastructure • Minimising the risk of releasing contaminants and avoiding releasing discharges from contaminated land • Adopting water sensitive design and management principles • Adopting on-site management techniques that will improve the quality of stormwater and/or wastewater prior to discharge • Establishing, replacing, retaining and/or enhancing riparian and catchment vegetation for the purpose of promoting setbacks and ecological buffer areas
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around wetland areas

- Assessing treatment alternatives for discharges and adopting best practicable options for treatment

This policy area prompted wide-ranging discussion among interviewees, particularly Māori participants in the project. A key theme underpinning these discussions was the importance of protecting and enhancing the connections of Māori with the coast, and the social and economic impacts of this. These issues were manifested across a wide range of issues that were discussed:

- Impact on cultural interests from urban and rural discharges
- Access to seafood, and health impacts of polluted harbours and waterways
- Recreational access
- Impact of forest slash on waterways and infrastructure.

7.5.1 Impact on cultural interests

A recurring theme of discussions with Māori stakeholders – and which was also reflected in comments to the RPS – was that of the many taonga or treasures that come from the coastal environment. These are deeply rooted in the traditional beliefs of Māori in the region. One interviewee said

"Our gods have a lot to do with the mauri of the water. From that mauriora, we get kaitiakitanga. We need to look after the birds, bees and water"

From this outlook, the degradation of harbours, estuaries and coast, and the loss or decline of local fish and shellfish species has a fundamental significance in terms of identity and mana. A common example given was the ability of mana whenua to feed manuhiri (visitors) to marae. One interviewee described the concerns she had about loss of mahinga kai (traditional harvest):

"There's an expectation by inland people coming to a tangi that there will be pipi on the table. It's part of our culture, kawa and mana. There used to be crabs at Maketu, it was a novelty, different food to what people are used to. When visitors come they expect the benefits of being coastal people. But we can't guarantee that."

The failure to provide such delicacies was seen as a loss of mana. Related to this issue, others mentioned the cultural connotations of harvesting shellfish that are

contaminated with sewage in seawater, which has cultural implications over and above health concerns.

A further concern raised by one interviewee was the need for protection of mataitai reserves (customary fisheries) in the harbours, and that the current (operative) RPS didn't give acknowledgement to these sufficiently. These reserves were similarly affected by sewage overflows.

The Ohiwa Harbour Strategy was highlighted by one respondent as a potential regional exemplar initiative to improve the quality of the marine environment. The approach includes mangrove management, active management of nutrient discharges on land and sedimentation management with forestry, and widespread community participation.

7.5.2 Access to seafood, and health impacts of polluted harbours and waterways

Access to kaimoana (seafood) is not simply a cultural issue; for people on low incomes, it is also an economic issue, by providing effectively free food for the family table.

One conversation with people from a community centre in Tauranga focused on the concerns of sewage and stormwater pollution in the Tauranga harbour and estuaries. At Merivale, the shellfish bed has been closed for 18 months, but families still collect cockles and other food. This raises health concerns, given the potential contaminants in the water. These anecdotal concerns of health impacts are supported by environmental monitoring in the harbour, as reported earlier (Scholes et al 2009).

One interviewee raised a concern about methyl bromide use for quarantine pre-shipment fumigation processes, including for forestry logs held, at the Port of Tauranga and the potential impact of this on shellfish and fish species.

A local government interviewee raised the concern of the long-term viability and health of shellfish beds around Tauranga. There is a cumulative impact over time of heavy metals, copper and zinc flowing into the harbour that it was thought will be very difficult to detect and effectively remediate.

7.5.3 Recreational and food gathering access

Discussions in this theme mirrored those in discussion of pollutants in freshwater, discussed in section 7.2. Interviewees concerns included:

- The amount of rubbish finding its way through to rivers, estuaries and sea, and the impact this has on the desirability and healthiness of some coastal areas for recreation purposes, such as swimming and fishing
- The impact of marine pollutants on fish and shellfish harvesting.

7.5.4 Impact of forest slash on waterways and infrastructure.

A fourth theme was the potential impact of forest slash on waterways and infrastructure. The concern was that the RPS is silent on clearance from forest harvesting, which long after forestry harvesting is complete, can be washed down waterways and into the sea. Some of the slash is quite sizeable and cause damage to local infrastructure, including bridges and roading. In the future, this may also cause damage to coastal aquaculture, placing further costs on its development and ongoing maintenance.

7.5.5 Summary of identified social and economic impacts: Managing adverse effects of land-based activities on marine water quality

Issue	Populations affected	Description of impact	Potential mitigation approaches
Loss of access to traditional kaimoana (environmental/cultural concern)	Māori	Inability to harvest local delicacies – loss of mana	Environmental planning, monitoring and management that supports rejuvenation of kaimoana and coastal/harbour areas
Access to seafood (environmental/economic concern)	Low-income communities	Inability to harvest seafood from harbour and coast; loss of access to free food source	As above
Health impacts of polluted harbour and coast (environmental concern)	Users of harbours and coasts	Viral contamination and human health impacts	As above
Recreational and food gathering access (environmental/social concern)	Users of harbours and coasts	Impact on recreational uses (e.g. fishing, swimming); loss of amenity value	As above
Forest slash (environmental/economic concern)	Users of harbours and coasts	Damage to rivers and infrastructure; threatening economic development	Strengthening monitoring and management

7.6 ENABLING SUSTAINABLE AQUACULTURE (CE12B)

Issues of concern which the RPS seeks to address:

- Managing the allocation of space for a range of competing uses in the coastal marine area

Proposed RPS policy responses:

- Enable aquaculture activities in appropriate locations in the coastal environment, taking into account:
 - Existing uses and values within the coastal marine area
 - Compatibility with zones identified within the relevant regional plan
 - Potential for significant social, cultural and/or economic benefits to communities within the region
 - Infrastructure requirements associated with the aquaculture activity
 - Adverse effects on areas of significant landscape, heritage, cultural or ecological value identified within any relevant regional or district plan
- Aquaculture will not be encouraged within the region's harbours and estuaries.

7.6.1 Potential for economic development

The key themes raised in discussions were:

- General support for the permissive nature of RPS with regards to coastal aquaculture
- Creating opportunities for building skills of local Māori in marine science
- Preserving coastal sites of cultural significance
- Maintaining and enhancing biodiversity.

A report by Te Puni Kokiri identifies a number of reasons why aquaculture development is relevant for Māori, including new aquaculture legislation; an allocation of aquaculture assets will be made to iwi; many Iwi are being allocated fishing assets which are complimentary to aquaculture assets; and aquaculture, if appropriately developed can be consistent with Kaitiakitanga

There is the potential for aquaculture development to impact on the customary harvest of kaimoana. In order to benefit from the 20% allocation of aquaculture space there are requirements for iwi to meet. For many Māori, development of aquaculture space will only be possible through partnerships with industry (Te Puni Kokiri 2006).

A common theme of comments on the draft RPS, and many of the discussions that were held, was that aquaculture is a potentially significant tool for Māori economic development, and economic development more generally in the region. For example, the Opotiki District Council in partnership with the Whakatohea iwi, has invested heavily in planning for a harbour facility to support aquaculture development in the area, which is seen as pivotal for the area's economic transformation (Opotiki District Council 2010). Eastern Sea Farms has lodged an application for the development of sea farms with the Whakatohea iwi. The development of the aquaculture farms are expected to provide employment to the region – however the infrastructure associated with aquaculture mean larger scale employment will not happen in the immediate future.

The proposed RPS is generally permissive towards coastal marine aquaculture, but generally restrictive in harbours and estuaries. Few concerns were raised by interviewees regarding the aquaculture provisions in the RPS, with one interviewee going so far as to say the RPS provides a strong framework to ensure barriers to aquaculture are removed. It was also suggested that an aquaculture development provides a key opportunity for development of a deep marine research facility, one that could provide important work opportunities for young people in the area.

A cautionary note raised by of some interviewees was that for aquaculture to maximise its economic potential for the local population, infrastructure such as processing should also be based locally, not overseas or outside the region.

Another concern that was expressed was the need to maintain and enhance the biodiversity of the marine area, and to ensure a balance between crops and natural resources. It was seen to be important to sustain local fisheries that are part of local cultures, and which are seen as part of the wairua of the area. For example, one interviewee noted that farmers tend to feed and medicate their stock. It is not known what the impact might be if this practice were applied to aquaculture activities in an open coast (i.e. medicating or supplementary feeding mussels), and a precautionary approach should prevail. It was argued that better integration is needed with Ministry of Fisheries activities to ensure active management of the environment.

Some interviewees expressed regret that the comprehensive coastal mapping exercise had had to be removed from the proposed RPS, and will now need to be inserted as a variation to the RPS. This was for legalistic reasons, and would have provided important direction for protecting areas of outstanding nature character in the region's coast, including traditional iwi fishing, seas sites of cultural significance, and migratory bird areas.

Some interviewees questioned if aquaculture techniques could be applied inland to support the breeding of koura and tuna.

A final concern was the visual impact of lights on a marine farm in terms of the amenity value of an area.

7.6.2 Protecting sites of cultural significance

One interviewee signalled a concern, not so much with RPS but with the regulatory framework emerging in the Aquaculture Bill before the House, that may not prevent aquaculture in parts of the coast with cultural significance. There are many sites known to tangata whenua along the coast where rites are performed and which require protection. It is noted however that the RPS recognises the need to take into account adverse effects on areas with considerable heritage, cultural or ecological value; and more broadly gives recognition to customary activities.

7.6.3 Summary of identified social and economic impacts: Enabling sustainable aquaculture

Issue	Populations affected	Description of impact	Potential mitigation approaches
Developing economic potential of aquaculture (RPS impact)	Coastal communities	Jobs and infrastructural development	Ensuring protection of cultural sites and environment
Maintaining biodiversity (environmental/cultural concern and potential RPS impact)	Coastal communities	Ensuring sea life unique to region (and part of cultural identity) is not compromised	Ongoing environmental monitoring and management
Protecting sites of cultural significance (cultural concern)	Coastal communities	Loss of key sites through unplanned development	Advocacy in national coastal planning regulation Constraint mapping Engagement with iwi

7.7 AVOIDING INAPPROPRIATE HAZARD MITIGATION WORKS IN THE COASTAL ENVIRONMENT (CE11B)

Issues of concern which the RPS seeks to address:

- Impact of hazard mitigation works on natural character and ecological functioning (e.g. seawalls, earthworks, reclamations)

Proposed RPS policy responses:

- Give priority to the use of non-structural solutions and the removal or relocation of existing structures over the construction of hard engineering structures to mitigate coastal hazards
- When considering an application for hard mitigation measures, particular regard shall be given to:
 - Whether non-structural or soft engineering methods are a more appropriate option
 - Avoiding structural protection works or hard engineering methods unless it is necessary to protect existing development or property from unacceptable risk and the works form part of a long-term hazard management strategy that represents the best option
 - The cumulative effects of isolated structural protection works
 - The costs and benefits of constructing hard protection works over the long term. This analysis shall include an assessment of residual risk remaining after mitigation works are in place to ensure the works do not inadvertently increase the risk of natural hazards
 - The need for structural protection works or hard engineering methods
- Activities that have the potential to adversely affect public access to and along the coastal marine area will be considered to be inappropriate.

This policy area seeks to prevent the negative environmental impacts that occur with inappropriate hard engineering coastal hazard mitigation works, and over time to rectify the consequences of existing works. Discussions with stakeholders raised two concerns:

- Impacts of inappropriate works that have occurred to date
- Costs of mitigation works and the people who bear the brunt of them

7.7.1 Impacts of inappropriate works to date

Among interviewees, there was general support for the direction established by the proposed RPS. Many respondents pointed to the outcomes of hazard works in the region and the impacts they were having. One interviewee said the situation was one where “development with economic benefit to a few is affecting the social and economic development of many.” Examples given included:

- Kaituna diversions and impacts on the ecology of the estuary
- The impact of the sea wall at Waihi Beach on the beach levels
- Potential impacts of port dredging on harbour ecology

From a perspective of the core cultural beliefs of Māori, the proposed construction of wall at Whakatane River mouth linking rocks of major cultural significance was a

concern raised by a Ngati Awa interviewee. One of these is seen as a departure point for those who have died and therefore tapu, and the other is a food gathering place; these are kept entirely separate in Māori tradition and would be joined by the proposed construction. The iwi propose coordinated dredging of the river as a better option.

7.7.2 Cost of mitigation works

A concern raised by some interviewees was the costs of mitigation works that were being borne by low-income residents. Matata and Maketu were cited as key examples.

In Matata, development had occurred in an area where local Māori had warned was prone to flooding. When the disastrous floods of 2005 occurred, the response of the local council is to build a new debris net. However, the mix of targeted and generalised rating in the district means that low-income residents are bearing a significant additional rating burden to pay for the mitigation works. There are widespread concerns in the area that some will be rated off their land to protect a small group who can afford to live there. This is another issue that relates to district council policies rather than the RPS, but which nevertheless raises substantial social impact concerns.

In Maketu, the community is being asked to pay for the cost of a reticulated sewage scheme (as discussed in an earlier section). Some interviewees suggested that the costs of cleaning the river were being borne inequitably by the local community, and that upstream polluters of the Kaituna should be bearing a greater burden of the costs.

7.7.3 Summary of identified social and economic impacts: Avoiding inappropriate hazard mitigation works in the coastal environment

Issue	Populations affected	Description of impact	Potential mitigation approaches
Impacts of inappropriate works to date (social/environmental concerns)	Coastal communities	Damage to ecology and cultural/recreational impacts	Ongoing monitoring and management through RPS implementation
Cost of mitigation works (city/district council rating policy impacts)	Low income communities	Costs being levied for mitigation works and inability to pay	Improving targeting of rating to prevent loss of land Access to/information on financial support to meet infrastructure costs (e.g. rating subsidies)

7.8 OTHER POLICY AREAS

In the course of discussions, a range of other concerns or points of discussion were raised with regard to the RPS. These are detailed below.

- **Allocation of water activities:** Some interviewees expressed concern at the way zoning and other activities are allocated, and the impact this has on Māori communities. Examples included big power pylons near the water at Maungatapu Marae in Tauranga, and water skiers operating outside the marae.
- **Consultation:** There was a view that the Bay of Plenty Regional Council has worked hard to bring in stakeholder views on the RPS including Māori views. One respondent said that her iwi's investment in contributing to planning instruments such as the RPS will reduce their need to react to consents and allow them to focus more on exceptions. There was much value seen by this respondent in the early and ongoing conversation between the iwi and the regional council on areas of its statutory interest; in particular, this allowed the iwi to test its response with its constituents, management and board.

However, an issue raised by one respondent was the resourcing demands placed on iwi in consultation for national, regional and local policy and planning. Iwi value the opportunity to be consulted, and are often strong on discussion and conversations, but often lack the capacity for written submissions. One possible means of support would be to fund secretariat support for written submissions.

A related view was that having Māori councillors on the regional council has been of considerable value, in terms of the complementary knowledge and skills that they bring.

- **Geothermal development:** Geothermal development is emerging as an opportunity and as a source of division in the region. The geothermal fields have in recent years reached a level of equilibrium, and a range of commercial operators and some Māori trusts are looking to how these opportunities may be exploited. Concerns were raised about how these opportunities will be balanced against other potential uses of the energy, including tourism, heating households, and CBD development; and balancing economic, social and environmental outcomes. A further concern, raised by one respondent, was would geothermal development, as with forestation, serve to alienate Māori from their land.
- **Wellbeing links in RPS:** An issue raised by one interviewee was the weakened links with effects on wellbeing in the objectives, policies and

methods of the proposed RPS, in comparison with the current operative RPS. The view expressed was that the RPS should consider impacts on broader social wellbeing issues, as well as the environmental and cultural impacts.

- **Focus on Western Bay as a growth area:** Some Rotorua interviewees were concerned that the focus of Western Bay as a growth area would be to the detriment of other parts of the district; it was proposed that the RPS should offer a more equitable level of consideration of growth planning or future growth planning across the district.
- **River maintenance:** One respondent was concerned about river maintenance, and the impact that inadequate engineering solutions were having on loss of land. It was suggested that councils should work more closely with local iwi who have knowledge of the rivers and of potential solutions.
- **Solid waste:** Whakatane respondents were concerned that the proposed RPS did not have a waste chapter, unlike the operative RPS. It was felt this was an important opportunity for regional council leadership on the issue that was being lost. This was a particularly important issue for the district council which ships out its landfill waste, and the cost of waste management has risen substantially to ratepayers in recent years.
- **Opotiki:** Interviewees from Opotiki District Council were of the view that there were issues of Opotiki's development and distinctive features that were not recognised in the RPS; in particular, the isolated and undeveloped nature of the district in which 70% of the land is protected, leaving a narrow coastal belt for development. The concern was that a region-wide approach of protection may work well for Rotorua and Tauranga, but may unnecessarily constrain development in Opotiki; for example, it was thought that any protection of indigenous vegetation has an inequitable effect in the district, where such a high proportion of the land is protected (either by the Conservation estate or by Nga Whenua Rahui).
- **Competing RPS priorities:** Potential internal conflicts or inconsistencies with the RPS were raised by some local government interviewees. For example, does a policy of an efficient transport system also support pollution of waterways; and does the drive subdivision to avoid dairying undermine consolidated urban form. A question raised was which takes precedent? Tauranga council staff were particularly concerned about coastal protection provisions around the Te Tumu area and the impacts on planning for urban growth in the area, and the flow-on into business and transport investment.

8. TE PAE MAHUTONGA

Te Pae Mahutonga is a model for health and wellbeing developed by Professor Mason Durie (Durie 1999). The model brings together significant components of health and wellbeing drawn from Māori traditions, but which can also apply to other New Zealanders. Te Pae Mahutonga is a symbolic representation of the Southern Cross constellations, the four central stars are used to represent the four key aspects of health and wellbeing: Mauriora (access to Te Ao Māori), Waiora (environmental protection), Toiora (healthy lifestyles) and Te Oranga/Whaioranga (participation in society). The two pointers are Nga Manukura (leadership) and Te Mana Whakahaere (autonomy).

The constellations have been used as a navigational aid for generations, and were proposed as a symbolic map for bringing together the key components for promoting health among Maori.



The framework has been widely applied in health promotion, and in some instances in local government in New Zealand. Applying this framework to this SEIA of the RPS offers challenges and insights for how the RPS can foster wellbeing in the future.

Access to Te Ao Māori – Mauriora

Mauriora is about access to a secure cultural identity. It is about access to Māori economic resources such as land, forest and fisheries, and about access to social resources such as whānau, language and knowledge, and access to societal domains where being Māori is facilitated not hindered.

Many of the stakeholders interviewed had access to tribal resources – culturally, socially, environmentally and economically. For some stakeholders, recent economic opportunities had more recently been created through treaty settlements. Some were concerned about the potential threat to economic development opportunities posed by aspects of the RPS and broader regulatory frameworks; whilst at the same time, the decline of indigenous fish and kaimoana was impacting on expressions of their cultural and iwi/hapū identity. Balancing these tensions is a key challenge for the RPS.

Autonomy – Mana Whakahaere

Mana Whakahaere - The ability for Māori to exercise control over the direction and shape of their institutions, communities and development, is influenced through Māori participation. Participants identified the importance of Māori participation in the policy making process, and generally supported the extent to which Māori were consulted in the RPS.

Ensuring mana whenua and tangata whenua perspectives are incorporated into decision making is crucial. There is a continual need to advocate for both groups involvement, and to ensure the involvement of whānau, hapū and Māori communities in developing a sense of ownership, community and belonging.

Mana Motuhake is about asserting tribal aspirations, control and self governance over future development. This was a theme articulated by many with regard to water allocation in the region.

Environmental protection – Waiora

The rivers, lakes and sea of the Bay of Plenty are an important life source and food basket. The connectedness and relationships between humans and the natural

environment is crucial, and this was reflected in the role that the Māori stakeholders saw as kaitiaki (guardians) of the environment.

Wai or water is an important life source. The wai should be moving – not stagnant. A theme raised in discussions was the need for ika and tuna stocks to be replenished and native flora and fauna re-generated.

Participants supported the focus on reducing pollution of the Rotorua lakes, as well as the many other awa, puna and moana which have significance for the many iwi within the Bay of Plenty Region.

Healthy Lifestyles – Toiora

The contamination of the rivers, lakes and sea impacts on the ability of whānau to lead healthy lifestyles; an often-cited example of this was the inability in some places to swim safely due to river contamination, and risk of injury.

Being able to collect kaimoana provides economic assistance to people on limited incomes, and provides a source of healthy nutrients. It also provides an opportunity to maanaaki manuhiri or visitors, but increasingly this is being threatened, due to contamination, over fishing/depleting (small size) of kaimoana.

The living and housing conditions of some Māori in rural areas may be compromised where they are pumped from contaminated sources or collected untreated in tanks. For many whānau that are already on a tight budget, the cost of having to pay for water is an additional extra burden.

Participation in Society – Te Oranga

Te Oranga is about whānau participation in the economy, employment, education, knowledge society and decision making. It is also about the terms under which Māori participate in society – for example participation in decision making. Some of the stakeholders interviewed had participated in written submissions to the RPS. However, some had not and appreciated the opportunity to either meet with the researchers face to face (kanohi ki te kanohi) or talk via a phone conversation.

Some stakeholders have relationships with local and regional council through resource management processes. However, some stakeholders identified differences emerging with local councils over such issues as protection of sites of cultural significance. A further theme was the importance of acknowledging Māori world views alongside Western scientific evidence; and for the use of cultural health indicators alongside mainstream data collection.

Leadership – Nga Manukura

Nga Manukura reinforces the role that local leadership play in fostering wellbeing of their communities. These can include iwi authorities, Māori health and education providers, rangatahi leaders, and Māori politicians.

Strong community partnerships and shared models for working together were endorsed. Many of the stakeholders were from tribal organisations, which provide local and regional leadership around environmental, cultural, social and economic issues/development, and engage directly with local and regional government.

9. MITIGATION AND MANAGEMENT

The discussions with local stakeholders predominantly focused on concerns regarding potential impacts, some of which the RPS is intended to prevent. However, from the discussions, a range of potential directions forward are possible in the ongoing implementation of the RPS.

- Supporting/promoting improved farm management systems: Support in this area may be particularly important for Māori landholders who wish to undertake dairying or other activities in a sustainable manner. This could be an important strand in the economic development of the region.
- Regional support/advocacy to implement water quality initiatives, such as TAPS, or support with water reticulation/hazard management charges
- Strengthening systems for identifying and managing cultural impacts, particularly where issues in this report have raised cultural impacts (such as access to mahinga kai, and protection of sites of significance).
- Ongoing identification and management of health impacts, including cultural health indicators, in partnership with the district health board
- Fostering more integrated solutions to water allocation, through implementation of the RPS
- Building on the directions set in the RPS to strengthen engagement with local iwi, including how water co-management initiatives can be further enhanced
- Continue working across local government and other agencies to enhance water quality in the region
- Ongoing dialogue and monitoring with district/city councils on the experience of RPS implementation
- Review of regional monitoring frameworks, to ensure they are fit for purpose in light of the issues raised in this review from social, cultural and health perspectives.

An underlying theme of impact assessment practice is that these processes are not simply about identifying impacts, but are also about establishing a process for planning and managing social change (Taylor Baines and Associates 2008, Taylor et al 2004). Looking to the future, community impact agreements may provide a useful tool and outcome focus for the implementation of the RPS as critical water-related proposals emerge.

Previous SEIAs have highlighted the use of community impact agreements and community liaison groups. Community impact agreements take place in a series of steps supported by information from social assessment processes. They also require support for building the capacity of the affected communities to participate and respond. These may be a useful tool to employ in the local implementation of the RPS. Matters such can include are:

- an approach to dealing with social consequences of environmental effects (noise, dust, visual, traffic, ground water, etc)
- a community development strategy including plans for housing, businesses and economic diversification
- a community liaison mechanism
- support for independent evaluation of impact assessments
- a social monitoring framework with mechanisms to put appropriate mitigation in place
- a process for dealing with public complaints if unanticipated effects or outcomes, or grievances emerge
- a package of support for community social and economic development (Taylor et al 2004).

Community liaison groups could provide a way of informing and liaising between development interests and communities, provide a forum for informed and constructive debate can occur, and represent a broad cross-section of interests (Baines 2005).

An alternative approach may be to establish as series of advisory groups/panels, drawn from the types of communities represented in this report, who could be consulted as part of similar SEIA processes in the future. This may be a way of ensuring those who are often under-represented in consultation have a continuing voice in future strategic development processes. These could include budget advisory services, health groups, school boards of trustees, iwi authorities, community development groups, marae committees, Māori Women's Welfare League and kohanga reo.

10. CONCLUSIONS

The overriding impression gained from this SEIA process is the challenge of balancing the many different interests in developing a document such as the RPS. Regional policy statements are required to set in place a framework for ensuring the sustainable development of the region, but are faced with undertaking this in a way that meets the social, cultural, economic and environmental aspirations of the people of the region. The value that the strategic approach of an RPS provides is an overarching structure to support decision making on complex and/or contentious issues, many of which have been highlighted through this report.

It is clear from the interviews conducted that there are many complex historical, social, cultural and economic relationships between the people of the region and its resources. These complex relationships are manifested in potentially competing tensions between on the one hand the preservation and restoration of the environment of the regions – and with this, many of the deeply held cultural traditions that accompany them – and on the other hand the desire for the opportunity to build the economic foundations and improve social outcomes through this.

Many of the concerns raised had less to do with the content of the RPS, but more to do with the historical forces that have created the environmental concerns, and their attendant social and economic impacts, which the RPS is intended to address. It is also clear that the development of the RPS has been marked by extensive consultation with a variety of communities, including Māori communities, to have their aspirations heard.

Where concerns have arisen with the proposed RPS or with national policy frameworks/regulation, they relate to the following areas:

- Potential constraints on economic development through limited dairying, particularly for Māori landholders
- Some concerns regarding the practical implementation of the RPS
- Concerns regarding municipal water supply protection
- Impacts of water takes on Māori communities and cultural practice
- Impact of forest slash on waterways and infrastructure.
- Preserving coastal sites of cultural significance
- Maintaining and enhancing biodiversity.

Through the consultation with Māori stakeholder interests, this SEIA has revealed a set of fundamental cultural concerns that differentiate this review from many others conducted on water related issues elsewhere in New Zealand, particularly in terms of such issues as kaitiakitanga of the land and water, loss of mahinga kai and associated mana, and the threat to indigenous species.

This report was intended to provide a scoping of the potential issues that may arise, and issues raised do not necessarily mean a social effect will be identified (or indeed will occur) at a later stage. As other researchers have noted, often social issues arise due to uncertainty about information or concerns that later prove to be unfounded. This strategic-level SEIA is not able to identify the likelihood of the impacts discussed occurring, but it can identify the nature and range of likely impacts. Any unanswered questions can only be resolved by the findings of more detailed investigation, and may be more appropriately applied to particular projects or policies (such as required in resource consent applications and plan changes). However, where an effect is identified and generally agreed as likely to eventuate, there is potential to reduce the significance of that effect through measures to mitigate or manage it (Taylor Baines and Associates 2006).

A final notable feature of this research has been the willingness of those participating to engage with the process, to share their experiences and knowledge, and to offer potential alternative directions. This willingness to engage offers a valuable foundation for the regional council and other decision-making bodies to build on through the implementation of the RPS in years to come.

APPENDIX 1: PEOPLE AND ORGANISATIONS CONSULTED

COMMUNITY AND IWI ORGANISATIONS

John Fletcher (Merivale Community Centre)
Reon Tuangau and Dee Samuel (Ngaiterangi iwi)
Judy Harpur (Ngati Kahu Health)
Beverly Hughes (Te Runanga o Ngati Awa)
Kahuariki Hancock and Gina Mohi (Ngati Rangiwewehi)
Hera Ngaera (Māori Trustee Office)
Paki Nikora (Tuhoe Putaiao Trust)
Anthony Olsen (Ngati Tuwharetoa)
Hera Smith (Te Arawa Lakes Trust)
Pakanui Tuhara (Rotorua Budget Advisory Service)
Tony Trinnick (Te Whānau-a-Apanui)
Chris Webber (Health Protection Advisor, Rotorua)
Cath Williams, Maru Tapsell and Sandra Potaka (Waitaha Runanga)

LOCAL/REGIONAL GOVERNMENT INTERVIEWEES

Kataraina Belshaw (Bay of Plenty Regional Council)
Liz Davies and Phillip Martelli (Western Bay District Council)
Julie Gardyne, Michal Akurangi and Santha Agas (Whakatane District Council)
Chris Jensen (Kawerau District Council)
Tracey May and Liam Dagg (Rotorua District Council)
Andy Ralph and Graham Jelly (Tauranga City Council)
Robert Schlotjes and Ian Castles (Opotiki District Council)
Bella Tate (Rotorua District Council)

APPENDIX 2: DRAFT RPS SUBMISSION ANALYSIS

COASTAL ENVIRONMENT

Potential impacts identified	Description
Impact on recreational use of the coastal environment	<ul style="list-style-type: none"> - Land use practices degrading health and life-supporting capacity of the coastal environment, in particular Tauranga Harbour. - Reducing light pollution in the coastal environments from existing developments in the area. - Appropriateness of hazard mitigation works in the coastal environment. The effect on public access should be mitigated by providing access along the seawall/making a reserve over the structure. - Smell and presence of sea lettuce during the summer for people using the beaches. - Ensuring effects of seawalls don't impact amenity to beach or have end wall effects making it unstable. - Human activities increasing natural hazard risk in particular within the coastal environment.
Impacts on economic growth	<ul style="list-style-type: none"> - Potential proposals to use the coastal environment should not be discounted. The policies to preserve the natural character of the coastal environment needs to be amended so that it allows for the avoidance, remediation and mitigation of significant adverse effects on outstanding natural features and landscapes where it is possible to do so.
Sites of cultural significance to Māori	<ul style="list-style-type: none"> - Māori cultural activities space is not provided for in Objective 6 - The matters considered significant by Ngati Tuwharetoa include natural character, indigenous ecosystems, historic heritage, public access, water quality and sedimentation. The Regional Policy Statement needs to reflect these matters in the region. - Highlight the strong links tangata whenua has with the coastal environment and that they are highly motivated to protect its mauri and its mana. Tangata whenua are particularly concerned with the discharge of sewerage into the coastal environment which causes a loss of mauri of the water in the region. - The coastal environment remains a key source of sustenance for tangata whenua and it's mauri is key to the mana of many iwi and hapū in being able to host and sustain manuhiri. Maketu estuary, known as the food basket of Te Arawa and the associated waterways support high ecological values and it significant to the community.
Economic impact on fisheries industry and recreational fishing	<ul style="list-style-type: none"> - The RPS needs to ensure that it contains provisions that seek to minimise the effects of permitted activities for freshwater bodies on the coastal environment - Bay of Plenty's Conservancy's harbours and estuaries nurture many important fish species. Objectives, policies and methods must reflect protection of these significant ecosystems in all coastal environments of the region. - In regards to point source discharges, the RPS needs to recognise diffuse source inputs as well as point source discharges as a significant issue for maintenance and enhancement of natural character and the ecological functioning of the coastal environment.
Impact on access, cultural values and recreational use of the coastal environment	<ul style="list-style-type: none"> - Providing an integrated approach to public access to the coastal environment to and along the coastal environment would assist the application of appropriate access and protection of significant coastal values. - The adverse effects on the on the natural character and ecological functioning of the coastal environment are impacting on the quality of life of residents and their cultural beliefs. - Allowing protection of the coastal environment as well as appropriate public access. - Guidance on reclamations is needed to improve public access and use of coastal environments. - Include vehicles to be allowed on beaches in the RPS

Potential impacts identified	Description
Impacts on sites of cultural significance	<ul style="list-style-type: none"> - A large proportion of the Region's historic heritage, particularly archaeological sites is near or within the neighbouring coastal environment and this needs to be reflected in the RPS objectives and policies. - Recognition of Mauao, Hukukiore, the Maitaitai reserves, the beach and the dunes as sites of cultural significance. - Inadequate protection of particular areas in private ownership has led to degradation of and loss of areas significant ecological, landscape and cultural value.
Impacts on managing cultural relationships	<ul style="list-style-type: none"> - Māori must feature as a key stakeholder to ensure integrated management of the coastal environment. Particularly in managing policy and protocol related to kaitiakitanga activities. - Some iwi and hapū have shown an interest in developing co-management models with Councils to better protect Māori cultural relationships on the coast.
Balancing the impact of energy generation and recreational use of coastal environment	<ul style="list-style-type: none"> - The reference on page 19 noting the sustainable management of coastal resources and the coastal space which includes providing for energy generation in a manner that addresses their impact on recreation values and natural systems is supported. Reference in the RPS should be to electricity generation from renewable energy resources to achieve consistency with the Act.
Balance of economic, social and cultural impacts within the coastal environment	<ul style="list-style-type: none"> - Where land use activities impact on the marine and coastal environment, policy must provide direction on how to ensure the correct balance for economic, social, cultural and environmental needs. - The RPS needs to reflect that much of the coastal environment in the region is privately owned and used for primary production. This is essential to community's social, economic and cultural wellbeing and therefore should be a level of tolerance towards adverse effects.
Economic impacts on the agricultural industry	<ul style="list-style-type: none"> - There needs to be recognition of the two large offshore farms in the region as items of national importance and that hold great economic value and should have the same ranking as the Port of Tauranga. - Landowners should not be unreasonably impacted or controlled in their farming activities simply because they neighbour a coastal marine area. - Amend the explanation section to ensure that 'development' does not include activities undertaken as part of rural production.
Economic impacts on mining industry	<ul style="list-style-type: none"> - The RPS should recognise the potential for mining within suitable coastal areas and provide opportunities for resource consent applications for mineral extraction.
Impacts on residential properties	<ul style="list-style-type: none"> - In regards to policy 36 and 82 resident in the area are concerned that if natural hazards are generating intolerable risks to existing uses (e.g. coastal erosion on beachfront properties) then mitigation in the form of seawalls should not be first option.
Impacts on recreational uses of lakes	<ul style="list-style-type: none"> - Need for 'coastal' areas around lakes in the region to be brought to attention just as the coastal environments because they are both have similar issues and processes around them.

WATER QUANTITY

Potential impacts identified	Description
Impacts on water supply for the region	<ul style="list-style-type: none"> - The proposed changes to the Regional Policy Statement need to reflect the importance of municipal drinking water supplies for a community's social, economic, cultural wellbeing and their health and safety. - The RPS should place priority on municipal water supplies and enable extraction rates at a volume greater than the environmental low flow in order to sustain communities. - All reticulated water use from municipal and community supplies should be metered. - There is inefficient use of national and renewable resources such as over-abstraction. There are also competing demands for finite water resources. - Promoting the efficient use and water. Consents support policies that enable people to harvest water. Enable infrastructure related to water harvesting. - Develop priority for domestic supply as being first preference, then economically productive uses.

Potential impacts identified	Description
	<ul style="list-style-type: none"> - Policy guidelines are needed to ensure long term consideration for allocation of water and to encourage efficient harvesting storage and management of water. This should include consideration of alternative sources of water and water conservation measures, including collection of roof surface water runoff, reuse or recycling. - Include provisions to ensure that an adequate supply of good quality water is provided for school sites in future.
Economic impacts on the agriculture industry	<ul style="list-style-type: none"> - The RPS should explicitly note the importance of water for the region economy, especially in regard to horticulture and agricultural activities. Use of water for irrigation and frost protection of food crops is essential to the economic well being of the region. - The policy relating to automatic priority for domestic water use is not supported where subdivision is restricted because of the presence of productive soils, water that supports this productivity should not be allocated to domestic use. - Support for prioritising reasonable domestic take for current generation. However water policy should adequately address the effects on existing users from urban development without a corresponding investment in water storage and distribution infrastructure. - Recognise the kiwifruit industry needs access to water and sufficient reserves to allow for the growth and sustainability of the industry. This should be a priority before allocating water for urban use. - The policy regarding 'the efficient and sustainable use of water, now and for future generations' is supported, water resources are essential to sustaining the dairy farming industry. - There is support for the efficient use and reuse of water and for robust methods to allocate water, particularly at times of low flow. - There are concerns about the equity and practical implications of using a common expiry approach for resource consents to take water. The policy stating 'establishing and applying a common expiry date of 10 years' is not supported. - The integrated catchment management policy states that land and water resource to be managed in order 'to ensure no significant adverse effects on the quality of surface water and groundwater'. This should be amended to 'to ensure that any adverse effects on the quality of surface water and ground water are avoided, remedied or mitigated' to be consistent with the RMA. - The policy that sets and applies minimum flows is broadly accepted however there is concern that the current values exclude the economic value of water bodies.
Economic and social impacts on region	<ul style="list-style-type: none"> - Allocation policies should ensure that land uses that require vast amounts of water for irrigation is not be permitted. Allocation priorities for various uses should be established on a catchment basis. - Consideration should be given to restricting urban use for activities such as car washing and swimming pools. Metering of water use with appropriate charging should be mandatory. - Water quality of the Rotorua Te Arawa Lakes has a huge impact on tourism, national and regional economies, environment, health, culture, recreation, fishing, agriculture and forestry. These considerations need to be highlighted and so that the impact of water quality is not undervalued by the community as a whole.
Economic and functional impacts to mining industry	<ul style="list-style-type: none"> - Water allocation policy is supported but the policy direction needs to recognise the water needs of certain land uses e.g. aggregate mining which are based on the location and nature of the resource and the demands for the resource which fluctuate along with the demand for water requirements. - There are fundamental issues with the proposal to introduce common expiry dates for water take as described in policies 48, 103 and 104. The water take application process is lengthy and the proposed common expiry dates will be costly, time consuming and create uncertainty for applicants and the community, and will do little to protect the environment. - In relation to policy 44, setting and applying minimum flows and allocation limits for water, exceptions should be granted for mine dewatering.
Growth in urban and industrial development	<ul style="list-style-type: none"> - Long term considerations must provide for certainty and sustainability in agricultural, urban and industrial development and growth. - Water availability needs to be taken seriously when considering growth, including impact on water availability and or cost for productive land uses. - Potential impacts on productive land-use should be considered alongside any decision to intensify or expand activities requiring water.
Economic impact on the primary and secondary industry	<ul style="list-style-type: none"> - The RPS should acknowledge the importance of primary and secondary industries to the regional economy and society and its reliance on the use of freshwater resources.
Impact on Māori rights to	<ul style="list-style-type: none"> - Māori have rights under Article II of the Treaty of Waitangi to have full, exclusive and undistributed access and use of water. This is not recognised in regional policy and

Potential impacts identified	Description
water access	plans. Policy and consultation to address this issue is required.
Balancing the economic, environmental and social impacts of water allocation	<ul style="list-style-type: none"> - The move away from first in first served approach to water allocation is supported. However need to ensure regard is given to the economic, environmental and social impact when determining the principles of water allocation. - The policy stating that there will be sufficient water for domestic, farming, horticulture, agriculture and business is supported.
Economic impact on energy industry	<ul style="list-style-type: none"> - The RPS should recognise the benefits from the use of water for electricity generation from renewable energy sources, at local, regional and national levels. - Introducing common expiry dates for consents will act as a significant barrier to the industry for investing and developing major projects in the region.
Impact on recreational use of water bodies	<ul style="list-style-type: none"> - Water quantity is important for Fish and Game for maintaining ecosystems and recreational uses. - Freshwater ecosystems and wetland habitations are dependent on sufficient flow and quantity of high quality water to ensure that habitats of indigenous freshwater fish threatened fauna and flora are retained and protected.
Impact of affordability of water	<ul style="list-style-type: none"> - Policy 44 and 45 'Setting and Applying minimum flows and allocation limits for water is supported and 45(a) should mean that no new allocation can define existing users of an aquifer or cause excessive costs if wells must be defined or water resources.

WATER QUALITY

Potential impacts identified	Description
Impacts on water quality for public use	<ul style="list-style-type: none"> - High water quality is essential to ensure clean, healthy, sustainable supply of water for urban settlements high to. - Reused or untreated water should not be used to water food crops and plants and must not be a detriment of public health. - Reducing sediment runoff into waterways from land use activities will reduce heavy metal and microbiological contaminants entering water which may be used for drinking, food gathering or recreational activities. - Water sourced from roof collected rainwater should not be used for drinking or sanitation in the household, because roof collected water is likely to be contaminated and therefore cause illness. - The role of Public Conservation Land needs to be improved to ensure important ecosystem processes provided by water bodies and wetlands occur. These include assimilation of discharges, aesthetic and recreational values, and the provision of water for drinking and other uses. - Concern over the declining water quality and subsequently the declining in gathering of kai and swimming opportunities. - The used water storage through damming is not considered appropriate for municipal water supplies as there is an increased risk in contamination of supplies and would require expensive treatment in order to meet the Ministry of Health Water Supply Guidelines.
Economic impacts on industries in the region	<ul style="list-style-type: none"> - The RPS should promote economically viable strategies and flexible solutions at a catchment and property level for land management and land use activities to achieve water quality goals. - Development of any integrated water and land catchment plans should focus on critical areas and need to recognise that certain land uses (such as aggregate mining) are resource located, therefore flexibility needs to be maintained through site specific resources consents. - The RPS should recognise mineral extraction activities can occur within waterways subject to adequately avoiding, remedying or mitigating adverse environmental effects from extraction, processing and transportation in these areas. - The high standard of water coming from forestry catchment has to be maintained, forestry has to minimise effects of its land use while the downstream agricultural uses do not have to minimise their effects and can continue business as usual.
Impact on water quality for recreational use	<ul style="list-style-type: none"> - Matters including natural character, customary use, intrinsic or outstanding values and amenity values must be recognised, protected and enhanced needs to be added to the chapter about minimum flows. - It should be a requirement for water quality to be maintained and enhanced when determining the 'best use' of land and water, to ensure indigenous freshwater fisheries and recreational values are protected and restored. - The RPS should include how to improve water lake water quality EBoP whilst maintaining amenity and natural character within the different zones.

Potential impacts identified	Description
Economic impacts on the agricultural industry	<ul style="list-style-type: none"> - Objective 20, establishing nutrient discharge levels on a catchment basis and reducing them over time to improve water quality is supported. However farming should be protected as an economic resource and changes to other land uses should not be treated as a key solution. - 'Agricultural discharges of nitrogen and phosphate are significant contributor in reducing water quality in the majority of the lakes of the Rotorua district'. However this must be balanced by the economic viability of regional industries, particularly as this affects the wider Te Puke Region. - The RPS should amend the regional resource management issue for Rotorua Lakes to refer to land use discharges in general and not agricultural discharges specifically. - Ensure water quality policies and methods are cost effective to implement comply with and to monitor; and flexible for land owners to adapt to their land.
Balancing the of impacts on social, economic and cultural values	<ul style="list-style-type: none"> - The introduction where the economic importance of water has been recognised along with water's environmental, cultural, health and recreational values is supported. - Freshwater resources should be managed on a basis of classifications that are established in a manner that includes all social, economic and cultural values and as such have standards or guidelines that correspond to the freshwater resource classification.
Impact on cultural relationships and values	<ul style="list-style-type: none"> - Co-management of freshwater resources with iwi and hapū is supported with reservations. Key attributes of current successes, should be documented to inform where co-management is likely to be successful. Co-management should not be the only method of iwi and hapū involvement in the management of freshwater resources. - Māori and many other people find approval to discharge treated effluent into the sea unacceptable. Policy to address this issue is promoted. - Include in the RPS the six resource management issues of significance to iwi authorities. The mauri of water, land, air and geothermal resources has been degraded and needs to be protected and restored. - Objective 15, which states that water, land, coastal and geothermal resource management decisions take into account iwi resource management planning documents is supported.
Impacts on sites of cultural significance	<ul style="list-style-type: none"> - How the mauri of water bodies will be protected and how the exercise of kaitiakitanga will be provided needs to be made explicit. It is suggested that the devolution of responsibility is passed onto iwi wherever possible. - The mauri of water, land, air and geothermal resources needs to be sustained and improved where degraded.
Impacts on economic and social development in the region	<ul style="list-style-type: none"> - The new RPS needs to ensure that an adequate supply of good quality water is provided for aggregate and sand extraction industries. This will help secure economic viability of these industries and help uphold the health and wellbeing of people staying, working and visiting the sites of operation.
Impacts on sustainability of the energy industry	<ul style="list-style-type: none"> - The next RPS needs to include strong provisions which reflect the need for the security of water allocation for existing hydro operations and to enable the development of new hydro-electricity generation operations.
Economic and recreational impacts of water quality in the coastal	<ul style="list-style-type: none"> - Expect best practice land management to be applied in catchments for maintenance and enhancement of water quality of Tauranga Harbour. The sedimentation of Tauranga Harbour is significant given the recreational and economic use of harbour.
Afforability of water quality	<ul style="list-style-type: none"> - There is concern regarding removal of financial support for fencing subsidies.

AQUACULTURE

Potential impacts identified	Description
Impacts on economic growth	<ul style="list-style-type: none"> - There has been a request by a hapū group to develop an 'experimental site' to research aquaculture farming in Maketu and Te Puke. They intend farming a traditional Māori product that can be eaten and has value in medicinal and health products. To obtain a permit for an experimental site it has to be included on a Regional Policy Statement, in accordance with the Aquaculture Act (Amendment 2) - Potential for the Aquaculture Settlement to offer Māori marine farmers opportunities to actively participate in the industry as developers or joint venture partners. - The RPS needs to reflect that marine aquaculture has significant potential to improve the economic sustainability of the BoP region. The Regional Council will provide certainty and support for aquaculture marine activities where appropriate, into certain areas to be identified as AMAs, with guidance on managing the environmental effects within the coastal environment.
Economic impact on fisheries industry and recreational fishing	<ul style="list-style-type: none"> - In the explanation to policy 52 'Safeguarding the life supporting capacity of coastal ecosystems' the effects on aquatic life including fish is consequence of changes to ecosystems as a result of sedimentation and nitrification, should be noted.
Impacts on managing cultural relationships	<ul style="list-style-type: none"> - The Aquaculture Settlement will provide appropriate management of the environmental effects on aquaculture by ensuring that all key stakeholders including iwi are duly consulted as part of the MAM development process
Impact on economic and social activities in the region	<ul style="list-style-type: none"> - The RPS needs to embrace aquaculture in the BoP area to enable and support flexibility for a variety of aquaculture activities within the AMA's created in the region. - Aquaculture provides an opportunity for Māori to take an active part in the seafood industry and to concentrate their efforts on activities that will provide them with the greatest overall benefit. - The efficient use of water and water harvesting techniques that minimise adverse effects of the aquatic environment is supported.

SITES OF CULTURAL SIGNIFICANCE

Potential impacts identified	Description
Impacts on sites of cultural significance	<ul style="list-style-type: none"> - Objective 24 which states 'Recognition of and provision for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga' is supported.

IWI RESOURCE MANAGEMENT

Potential impacts identified	Description
Impacts on cultural values	<ul style="list-style-type: none"> - Objective 15 which states that water, land, coastal and geothermal resource management decisions take into account iwi resource management planning documents is supported and should be retained. - Objective 24 which states that the recognition of and provision for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga' should be retained. - There is support for the inclusion of the Anticipated Environmental Results and Monitoring Indicators that require perception surveys of iwi authorities to identify whether the objectives are being achieved. This approach is in accordance with Operative Bay of Plenty ORS which recognises that 'only Māori can identify their relationship and that of their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga'. All too often monitoring assessments for the achievement of iwi resource management related provisions are undertaken by non-iwi persons, which are generally at odds with the views of iwi and hapū.
Impact on cultural relationships	<ul style="list-style-type: none"> - The retention of Policy 115 which that 'Cultivating partnerships between iwi and statutory management agencies'. Partnership protocols and relationships among councils and iwi authorities is key to supporting the expression of kaitiakitanga and achieving the sustainable management of the region's resources.

MATTERS OF NATIONAL SIGNIFICANCE

Potential impacts identified	Description
Impacts on sites of cultural significance	<ul style="list-style-type: none"> - An additional item needs to be added to the regionally significant coastal environment issues. These issues are of significance to the coastal environment however should be listed under the matter of national importance: <ul style="list-style-type: none"> - Damage and destruction of special cultural sites - Wahi tapu, sites of traditional cultural activities and other ancestral sites and taonga with which Māori have a special relationship continue to be damaged or destroyed by land use and development activities.

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