TAIRĀWHITI **2050**

BACKGROUND INFORMATION

OCTOBER 2019

first to see the light
GISBORNE
DISTRICT COUNCIL

CONTENTS

ABOUT TAIRĀWHITI

WHERE WE ARE

Geography

The Tairāwhiti/Gisborne region covers an area of 8,350 square kilometres, making up 3% of New Zealand's total land area. The region stretches from the Wharerata Hills in the south to the East Cape and Potaka township in the north and includes all of the coastal marine area extending out to the 12 nautical mile territorial limit within the District. Adjacent regions are Hawkes Bay and Bay of Plenty. State Highways 2 and 35 connect us to these neighbouring regions via three vital road corridors. Flights from Gisborne airport connect our region directly to Auckland and Wellington.

The region has a relatively low population and retains a degree of physical isolation from the rest of the country.

Our region contains around 270 kilometres of coastline. Stunning sandy beaches are many but in places the coastline comprises rugged rocky shores and headlands, off-shore islands, stacks and reefs.

Gisborne city and many of our smaller townships are located close to the coast and our lifestyle is heavily influenced by beach and marine activity.

Steep to rolling hill country dominates the region's topography. The Raukumara Range forms a rugged bush-clad spine that runs the length of the region's western boundary. The highest point is Mt Hikurangi which, at 1754m, is the highest non-volcanic mountain in the North Island.

Our steep hill country grades to rolling land on hilltops and river terraces and flats in the valleys. Valleys are narrow except our large rivers, especially the Waipaoa River and associated tributaries which have formed the Gisborne Plains.

Recently formed skeletal soils cover most of the regions hill country. Pumice soils predominate in the smaller terraced areas and rolling hilly lands. They are friable, sandy or gravelly soils that drain readily and generally allow for plant growth. More alluvial soils are found along the river flats, swamps, coastal marshes and beaches.

WHO WE ARE

Gisborne's greatest asset is its people. We are a cohesive, connected, culturally rich and creative community.

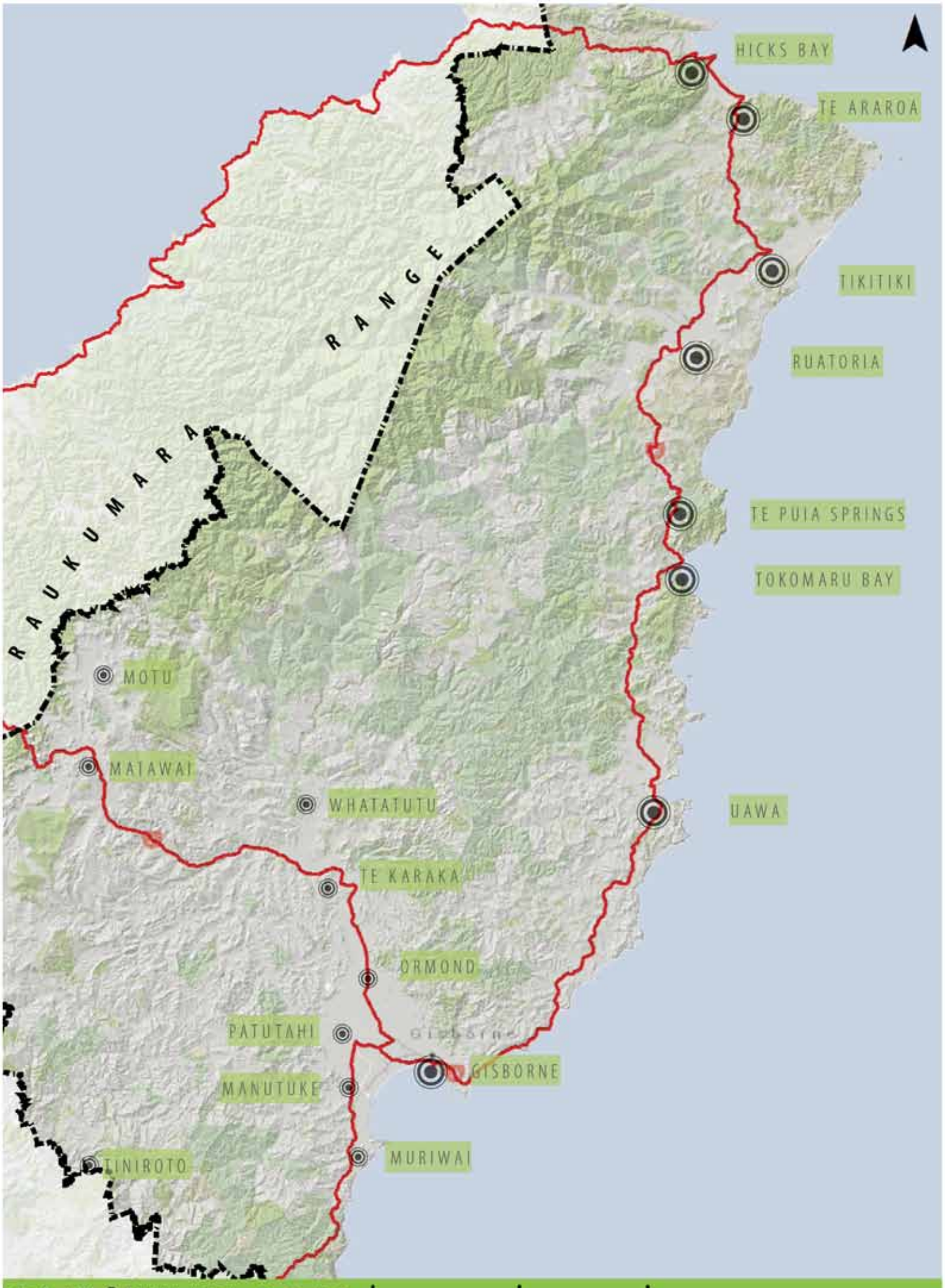
Our navigation history makes an important contribution to our cultural identity today. Māori are believed to have first arrived on the East Coast after their epic Pacific navigations in the fourteenth century. Their many descendants now make up almost half of the region. There is a strong cultural and spiritual relationship of iwi with the natural and physical environment of the East Coast. The waka of Maui- Tikitiki-a-Taranga who fished up the Ika-a-Maui (North Island) is said to rest on top of Mt Hikurangi, the ancestral mountain of the Ngāti Porou people. The rivers and coast continue to be an important and rich source of food. Tangata whenua make a significant contribution to the character and identity of all our settlements.

It's also where, in 1769, Captain James Cook anchored his ship Endeavour and came ashore for the first meeting on land between Māori and Pakeha (Activate Tairāwhiti, n.d.). From the time of first contact, Europeans had a major impact on Maori, their land, beliefs and culture and the technologies and tools available to them. The first encounters between Māori and Europeans were important and set the tone for future relationships. The encounter will be commemorated in October 2019, where our communities will mark the 250th year of this historic moment

Lifestyle

Gisborne provides an enviable lifestyle for its residents. We have easy access to a stunning environment, cafes and wineries. Our homes are still incredibly affordable compared to other cities in the country and it takes no time at all to get to work. We are at home by the beach and are spoilt for choice when it comes to surfing, swimming, camping and fishing.

Our economy is growing and is creating opportunities for more employment. While further away from the major metropolitan centres, we are only an hour's flight away from Auckland and Wellington.


HICKS BAY
TE ARAROA
TIKITIKI
RUATORIA
TE PUIA SPRINGS
TOKOMARU BAY
UAWA
MOTU
MATAWAI
WHATATUTU
TE KARAKA
ORMOND
PATUTAHI
GISBORNE
MANUTUKE
MURIWAI
TINIROTO
RAUKUMARA RANGE
0 5 10 20 Kilometers

Destination

Gisborne is also growing as a visitor destination. Events such as R and V have made Gisborne a regular new year's destination. Summer camping, great wine and a stunning coastline also draw families and campervans to the region. Cruise ship tourism is also increasing with visitors to Gisborne port almost tripling in the year to June 2019 (Ashton, 2019).

Population

As of June 2018, there are 49,100 living in the region (Statistics New Zealand, 2018). Most of us (37,200) live in the Gisborne urban area.

This is up by 2,100 from 47,000 since 2013. By 2048, there will be 5,140 more people living in the region, in 2,565 additional households (McIlrath, Erasmus, & Fairgray, 2019). While our population is growing, this is still markedly lower than the anticipated New Zealand-wide growth of +25%. The average household size is expected to decline from current levels of 2.76 down to 2.66 by 2048.

Age

We have the youngest population in New Zealand, i.e. highest proportion of under-15-year-olds. One quarter of our people are aged under 15 years; in 2014 the national average was 20%.

Over the next 30 years, the proportion of youth will decline but remain above the national average. Generally, our region sees a large loss of young adults to larger cities in New Zealand seeking further education and employment opportunities.

The 65+ age group will grow, from an estimated 14% in 2014 to 25% in 2031. Those aged 55 years and over are likely to stay in the region; this will lead to a reduction in proportion of the population that is of working age.

In total, the percentage of elderly and youth will increase from 39% in 2014 to 45% in 2043.

Population and household projections suggest that our population will gradually age over time. This will change the demand for different housing types, social services and community facilities. The aging population also has implications for the labour force with more retired people relative to the number of people that can work.

Family structure

The overwhelming majority of Gisborne family households is made up of two parents with at least one child aged under 18 years (32.1%). 21.7% of our households are made up of single parents with at least one child aged under 18 years. Only 29.2% of families live in well-off neighbourhoods in Gisborne.

Gisborne family members scored lower on many wellbeing indicators related to health, housing and economic security when compared to other family members across New Zealand. However, they were very likely to report that they had strong relationships with their families and good connections with their communities (Social Policy Evaluation and Research Unit, 2017).

Gisborne families are doing poorly in both physical and mental health (41.7% and 52.9% respectively). This poor mental and physical health are aspects that follow individuals as well. Only 62.3% of families feel safe at night in their neighbourhood.

Ethnicity

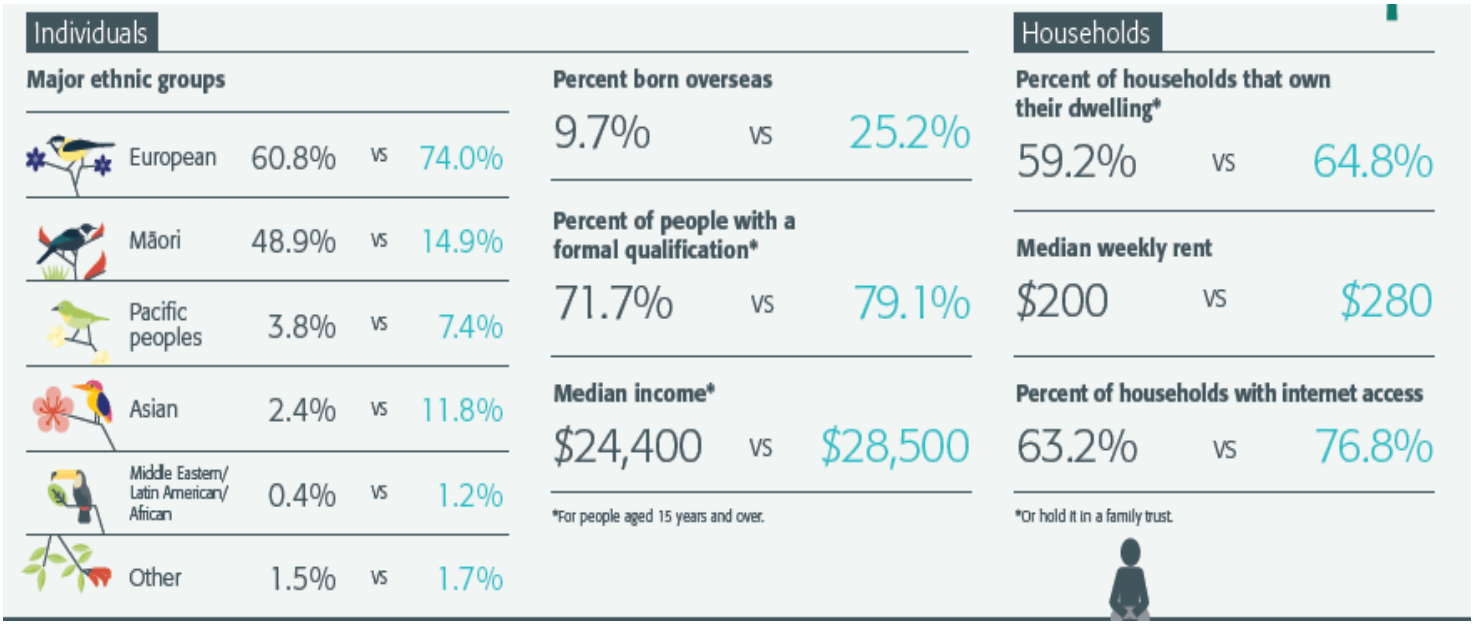
Maori make up 48.90% of our population (as at 2013 census) - a percentage that is far above that of the national average. Those of a Pacific, Asian, and Middle Eastern/Latin American/African ethnicity make up 3.8%, 2.4%, and 0.4% respectively and are well below the national average.

Four iwi have territorial boundaries in this region: Ngati Porou, Te Aitanga a Mahaki, Rongowhakaata, and Ngai Tamanuhiri.

Ngāti Porou is the most numerous iwi affiliation among Gisborne Māori, with just over 12,000 people in the district identifying with that iwi. Pacific people make up 4% of the local population, with 2% identified as Asian in the 2013 Census. In 2013, around 6,240 Gisborne district residents reported being able to hold a conversation in te reo Māori (almost 16% of the district's population – four times the national percentage).

In 2017 we had 70 operational marae in the region. Maori land accounts for 228,000ha of our region's 8,350 square kilometres.

Despite our marked difference in population, the Maori population is still disproportionately represented in benefit and poor health statistics despite being the fastest growing demographic in the region.



Education and Health

We are below the national average in terms of residents born overseas, people with a formal qualification, and median income for people aged 15 years and over.

Gisborne has the highest rates of obesity and type II diabetes in New Zealand.

71.60% of us aged 15 years and older have a formal qualification. 12.70% of us have a bachelor's degree or higher. Of those who are Maori, 64.50% have a formal qualification, and 9.10% have a bachelor's degree or higher.

Tairāwhiti has the worst health burden nationally. We have the highest rates of overall avoidable mortality and morbidity, and high rates of ambulatory sensitive hospitalisations. Our access to some health services are the poorest nationally, for instance access to some cardiac treatment services and renal services (Hauora Tairawhiti, n.d.).

Some of the factors contributing to our poor health statistics include high smoking and obesity rates (in some cases significantly higher than the national average), lower immunisation rates and a high level of health inequalities.

Composition of households 2018, 2033 and 2048

Household types	2018	2033	2048
Single person households	23%	26%	27%
Couples (no dependents)	24%	24%	24%
Twp parent families	27%	25%	25%
Single parent family	18%	17%	17%
Multi-family households	3%	3%	3%
Non-family households	5%	5%	4%

Source: Statistics NZ, id population projections and M.E. data

Levels of Deprivation

Tairāwhiti has the highest level of deprivation than any other district, with two thirds of the population (65%) living in Decile 8-10. Maori statistics are more pronounced with 77% living within deciles 8-10, and 78% of Māori children under 10 living in Deciles 8-10. This remains the most important determinant of health for our region and its continuing inequity poses the biggest challenge in improving health and reducing inequality.

Thirty nine percent of the population are under 25 and 12% are over the age of 65. Our district has the highest proportion of under 25's in NZ and one of lowest proportions of those over 65. For Māori only, 1 in 20 of the population are 65 or over, this compares to 1 in 6 for the Non Maori population being 65 or over.

Other demographics

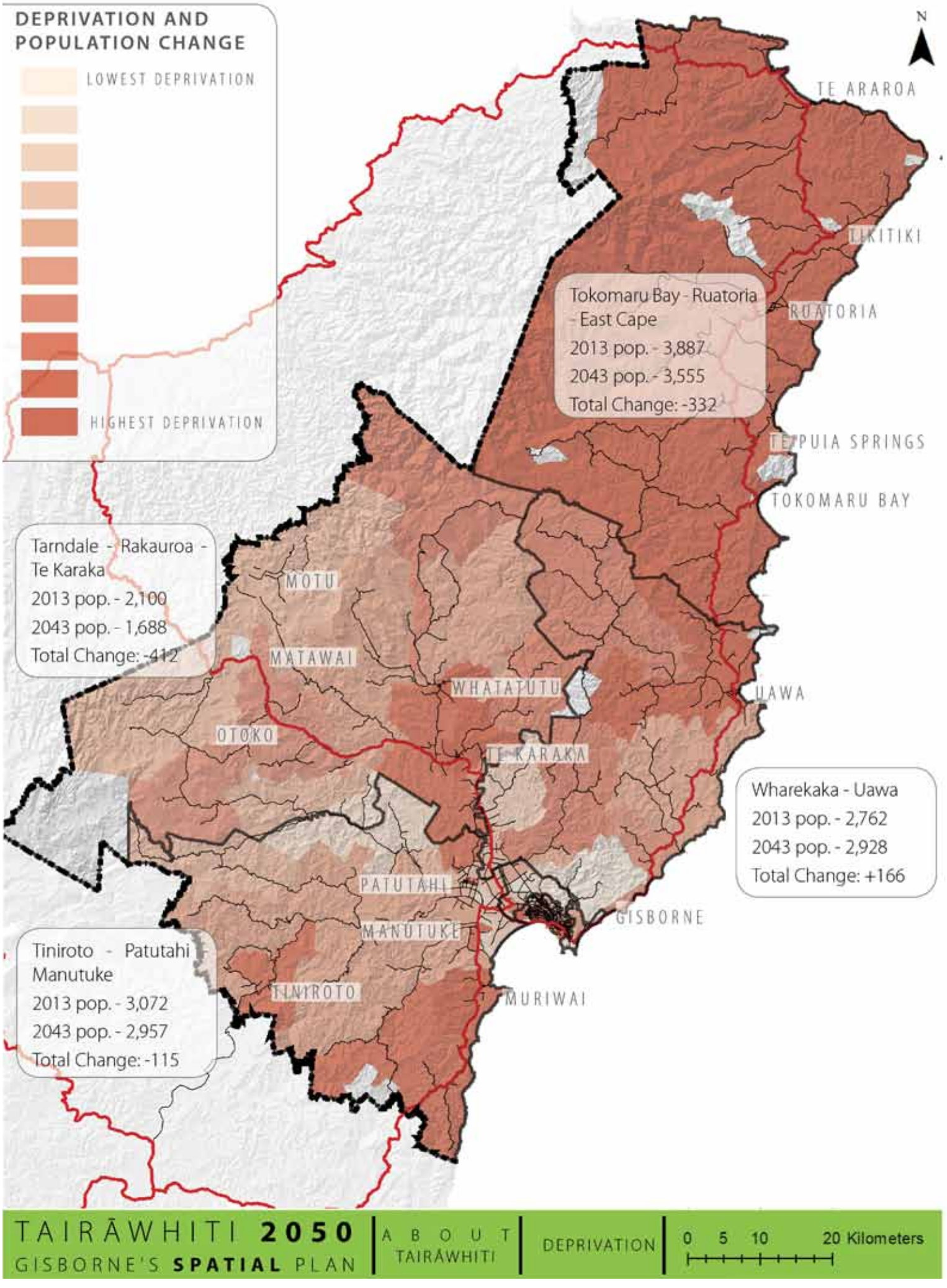
In 2006, only 9% of the residents of Tairawhiti were born overseas compared with the national average of 23%.

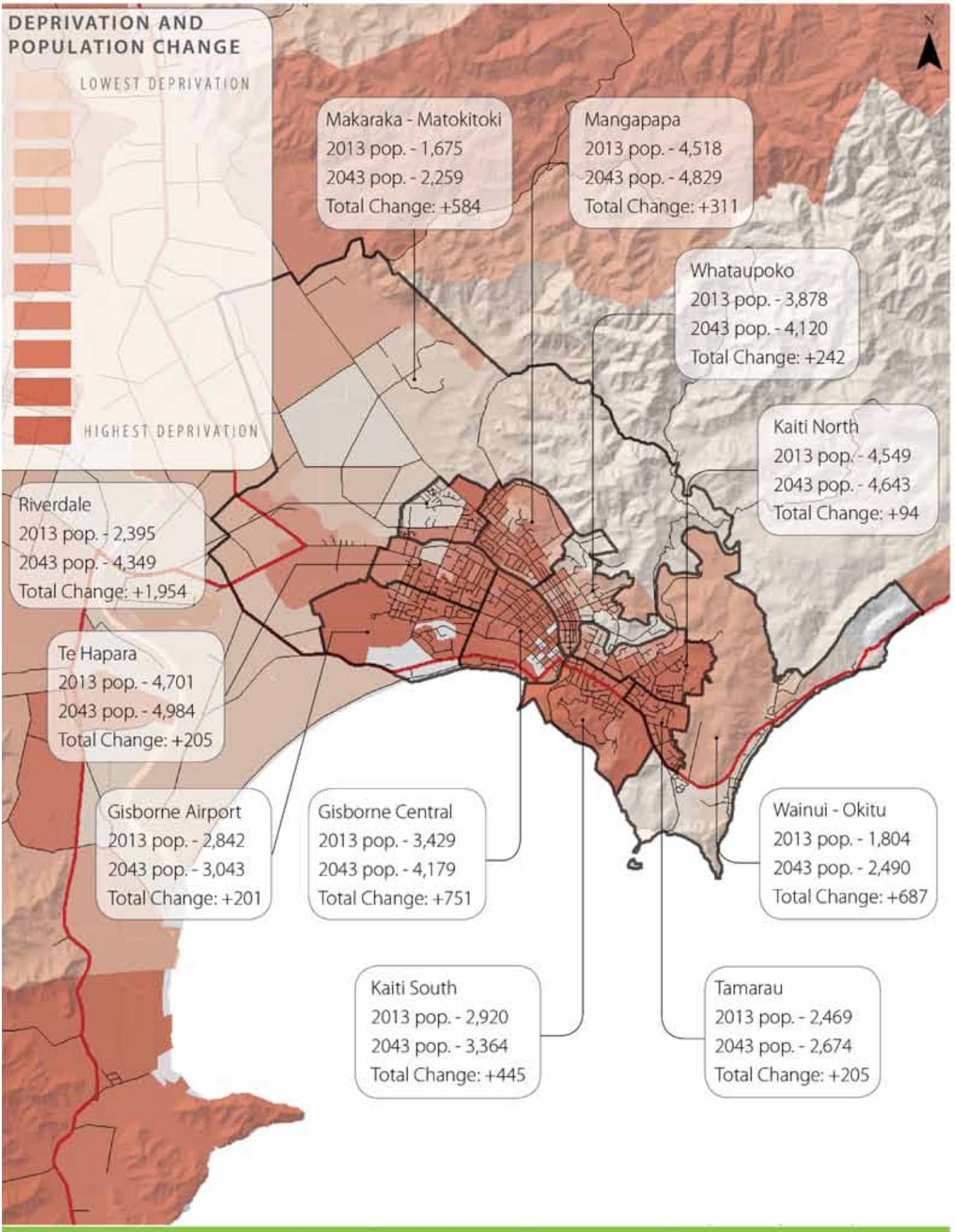
The percentage of households with internet access is also below the national average.

There is also an increase in number of families in the area; an increase in number of people moving to Gisborne from overseas; and forecast household types that show the number of couple families with dependent, those without and lone person households are the largest proportion all approximately 4500-5300 by 2043.

Females make up more than half of our population (51.70% as at the 2013 census).

The social issues affecting us are family violence, teenage pregnancy, poor sexual health, crime, truancy, smoking, poverty, welfare, and lack of qualifications.


DEPRIVATION AND POPULATION CHANGE
LOWEST DEPRIVATION
HIGHEST DEPRIVATION
N
TE ARAROA
TIKITIKI
RUATORIA
TE PUIA SPRINGS
TOKOMARU BAY
MOTU
MATAWAI
WHATATUTU
OTOKO
TE KARAKA
UAWA
PATUTAHI
MANUTUKE
GISBORNE
TINIROTO
MURIWAI
Tokomaru Bay - Ruatoria - East Cape
2013 pop. - 3,887
2043 pop. - 3,555
Total Change: -332
Tarndale - Rakauroa - Te Karaka
2013 pop. - 2,100
2043 pop. - 1,688
Total Change: -412
Wharekaka - Uawa
2013 pop. - 2,762
2043 pop. - 2,928
Total Change: +166
Tiniroto - Patutahi - Manutuke
2013 pop. - 3,072
2043 pop. - 2,957
Total Change: -115


DEPRIVATION AND POPULATION CHANGE
LOWEST DEPRIVATION
HIGHEST DEPRIVATION
N
Makaraka - Matokitoki
2013 pop. - 1,675
2043 pop. - 2,259
Total Change: +584
Mangapapa
2013 pop. - 4,518
2043 pop. - 4,829
Total Change: +311
Whataupoko
2013 pop. - 3,878
2043 pop. - 4,120
Total Change: +242
Kaiti North
2013 pop. - 4,549
2043 pop. - 4,643
Total Change: +94
Riverdale
2013 pop. - 2,395
2043 pop. - 4,349
Total Change: +1,954
Te Hapara
2013 pop. - 4,701
2043 pop. - 4,984
Total Change: +205
Gisborne Airport
2013 pop. - 2,842
2043 pop. - 3,043
Total Change: +201
Gisborne Central
2013 pop. - 3,429
2043 pop. - 4,179
Total Change: +751
Wainui - Okitu
2013 pop. - 1,804
2043 pop. - 2,490
Total Change: +687
Kaiti South
2013 pop. - 2,920
2043 pop. - 3,364
Total Change: +445
Tamarau
2013 pop. - 2,469
2043 pop. - 2,674
Total Change: +205

Economic Situation

Most of our population work as either labourers or professionals. In 2017 Tairawhiti had 4,578 business locations and 19,960 paid employees.

Fishing, forestry and mining generate the most revenue for the Gisborne region ($212 million in 2017). Agriculture is our second biggest industry (generating $187 million in 2017), followed by healthcare and social assistance ($132m), manufacturing ($128) and rental, hiring and real estate ($121 million).

Agriculture, forestry and fishing employ 22.40% of our population; 4,470 people are employed by this business region wide.

The average weekly income for people in Gisborne during 2014 was $660. This is 15% less than the national average of $780.

There is currently a rental market shortage – the average weekly rent increased $100 between 2013-2018. The average weekly rent in 2018 was $302. There are only a small amount of homes on the market to buy. We also lack a housing affordability measure; Kiwi Build is not a priority in Gisborne and our median house prices are much lower than what a Kiwi Build home would cost (McIlrath, Erasmus, & Fairgray, 2019).

In 2018 6.4% of our population was unemployed.

The average household income for Gisborne is $79,700. 41.90% of our population earns $20,000 or less.

Our region's economic growth has been slower than the rest of the country. Over the past 17 years, our regional economy added 1,205 jobs, representing a percentage increase of 5.5%. Over the same period, New Zealand's employment expanded by 28% (1.5% compound annual growth).

Tairāwhiti's economy faces several constraints and opportunities. Labour availability is one of the most visible. While labour availability is already an issue, labour constraints will become an even greater pressure looking forward. Making the 'best use' of available labour will be critical to capture Tairāwhiti's full potential (McIlrath, Erasmus, & Fairgray, 2019).

As part of its commitment to unlocking the full potential of regional Aotearoa, the Government has allocated $3 billion, over three years, to enhance economic development and employment opportunities in the regions. Tairawhiti has been identified as a surge region and has been prioritised for early investment and support through the Provincial Growth Fund (PGF). Through the Provincial Growth Fund, the Government is investing heavily in the future of the Tairāwhiti region. In September 2018 the Prime Minister and Minister for Regional Economic Development announced an investment package of $152.7 million for the region. This will help boost the region's economy, create jobs and enhance tourism opportunities (Provincial Development Unit, n.d.).

Modified Employment Count 2000 and 2017

	Industry	2000	2017	Change (#) 2000-2017	Change (%) 2000-2017
A	Agriculture, Forestry and Fishing	6,865	5,580	-1,285	-18.7%
B	Mining	25	15	-10	-40.0%
C	Manufacturing	1,925	2,115	190	9.9%
D	Electricity, Gas, Water and Waste Services	100	80	-20	-20.0%
E	Construction	1,380	1,505	125	9.1%
F	Wholesale Trade	625	560	-65	-10.4%
G	Retail Trade	2,025	1,900	-125	-6.2%
H	Accommodation and Food Services	1,130	1,115	-15	-1.3%
I	Transport, Postal and Warehousing	760	875	115	15.1%
J	Information Media and Telecommunications	220	285	65	29.5%
K	Financial and Insurance Services	160	190	30	18.8%
L	Rental, Hiring and Real Estate Services	440	460	20	4.5%
M	Professional, Scientific and Technical Services	745	1,215	470	63.1%
N	Administrative and Support Services	425	910	485	114.1%
O	Public Administration and Safety	640	820	180	28.1%
P	Education and Training	1,890	2,105	215	11.4%
Q	Health Care and Social Assistance	1,935	2,655	720	37.2%
R	Arts and Recreation Services	255	345	90	35.3%
S	Other Services	655	690	35	5.3%
	Total	**22,200**	**23,420**	**1,220**	**5.5%**

Wider community values

Our community values are an important consideration as they determine how we prioritise our projects and enable us to have an insight of what the wider community wants

Throughout the various satisfaction surveys and community engagement, we have found that of particular value to everyone are:

- Clean, consistent drinking water
- The upkeep of roads and footpaths
- Stable infrastructure that can support many community needs, especially as a meet-up place
- A community bond
- Activities that promote happy and healthy young people
- The beautification of towns and the city
- The preservation of our heritage
- Enhancing our destinations as tourist attractions
- Self-reliance (in jobs, energy, and other areas)

Township communities

Through our township plans and general satisfaction surveys, we have identified key areas pertaining to each township's community values. Although these differ slightly from township to township, there are some values that cropped up in almost all of the townships:

- The desire for clean, safe drinking water that is delivered to the people in a timely manner
- The upgrading of, or development of, infrastructure that beautifies the area while representing the township's culture (be it through bilingual signs, better internet reliability or sites to accommodate overnight visitors)
- The improvement of roads
- The promotion of outdoor fitness through the improvement of public spaces such as parks and walkways

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RESILIENT COMMUNITIES - CLIMATE CHANGE

BACKGROUND

New Zealand's greenhouse gas emissions

In 2016 New Zealand emitted 78.7 million tonnes of carbon dioxide equivalent (Ministry for the Environment, 2018a); this equates to a small proportion (0.2%) of global greenhouse gas emissions (Savage, 2006). New Zealand has a unique greenhouse gas emissions profile compared to other developed countries in that a majority of our emissions are produced by the agricultural industry. In 2016, agriculture was responsible for 49.2% of greenhouse gas emissions followed by energy (39.8%) (Ministry for the Environment, 2018a). Agricultural emissions are methane and nitrous oxide which are short lived gases but cause a greater greenhouse effect than carbon dioxide (Statistics NZ & Ministry for the Environment, 2017).

New Zealand accounts for only a fraction of the world's greenhouse gas emissions, (about 0.17 per cent in 2014). However, on a per capita basis we have a much larger carbon footprint, emitting 18 tonnes of greenhouse gasses per person, every year. That makes New Zealand the 21st biggest per capita contributor to climate change in the world (Fyers, 2018).

Gisborne's carbon footprint

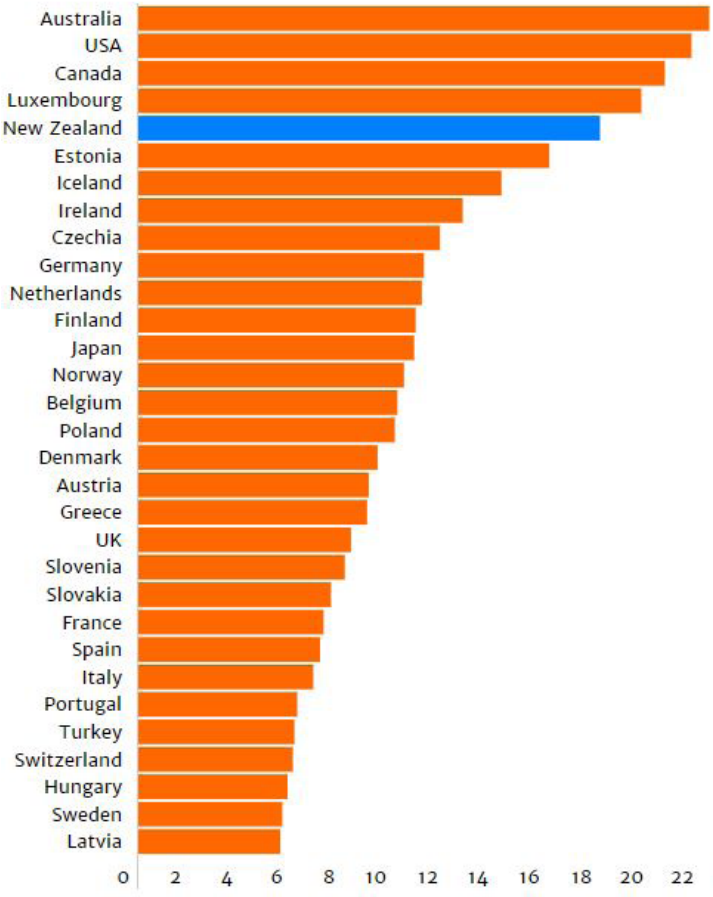
Gisborne region is thought to be at least carbon neutral and potentially a net carbon sink due to the plantation forestry (Savage, 2008). There are approximately 150,476 hectares planted in radiata pine (New Zealand Trade and Enterprise, 2016). Volumes of harvested logs are estimated to increase from 2.5 million tonnes in 2016, to 4.5 million tonnes in 2020 to 5.5 million tonnes in the late 2020's, with over 90 per cent exported in log form (Page, 2018). Gisborne's current economy is highly dependent on the forestry industry with the contribution to GDP (%) being the greatest out of any region in NZ (New Zealand Institute of Economic Research [NZIER], 2017).

International data - IPCC

The Intergovernmental Panel for Climate Change (IPCC) was established by the United Nations and World Meteorological Organisation. The purpose of the IPCC is to assess what we know about the climate system; the impacts of climate change; and possible ways forward. The 5th assessment report was released in 2014 and discussed the latest predictions based on different scenarios (IPCC, 2014).

In New Zealand, the National Institute of Water and Atmospheric Research (NIWA) has taken these findings and made them more relevant to the regions and from this have painted a picture of what is likely to happen to the climate in Tairawhiti (Ministry for the Environment, 2018b). Louise Savage was commissioned to do reports on climate change for Civil Defence in 2006 and an updated version in 2008. These reports were based on the findings of the 4th IPCC assessment report and the Kyoto Protocol (Savage, 2006; 2008).

Total greenhouse gas emmissions per capita in OECD countries (tonnes)



CLIMATE CHANGE WILL AFFECT TAIRĀWHITI

The predicted climate change effects on Tairawhiti have been modelled by NIWA using statistical downscaling from the IPCC Fifth Assessment Report.

Temperature

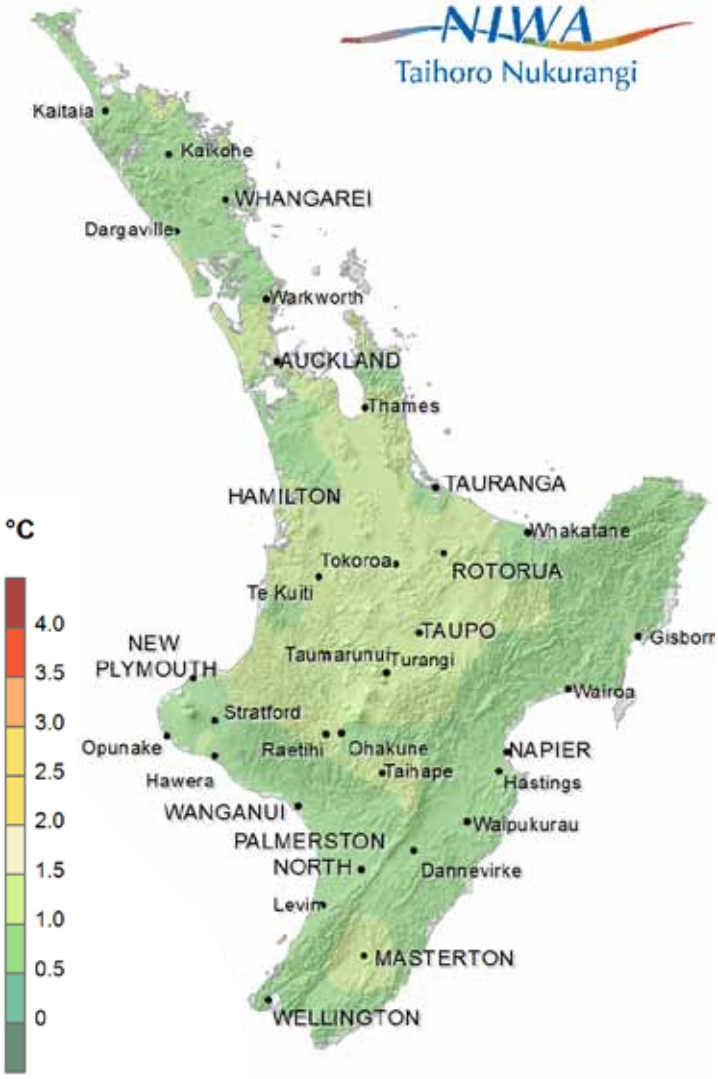
The number of days that exceed a temperature of 25°C are expected to increase from an average of 24.2 days to between 32.8 and 37.8 days per annum by 2040. The number of evenings where the temperature drops below 0°C is predicted to decrease from 8.5 evenings currently to between 3.6 and 4.6 in 2040. If a low emissions trajectory is followed which would require significant changes to the status quo immediately; the Gisborne region would be expected to experience a relative temperature rise on average of 0.7°C by both 2040 and 2090. On the other hand, under an IPCC high emissions scenario trajectory; Gisborne could expect to experience a 1.3°C relative temperature rise by 2040 and a 3.3°C rise by 2090. NIWA also looked into seasonal temperature change predictions. Tairawhiti could expect to experience a 0.7-2.8°C rise in spring, a 0.7-3.2°C in summer and autumn and a 0.7-3.1°C rise in winter temperatures by 2090 (Ministry for the Environment, n.d).

Precipitation

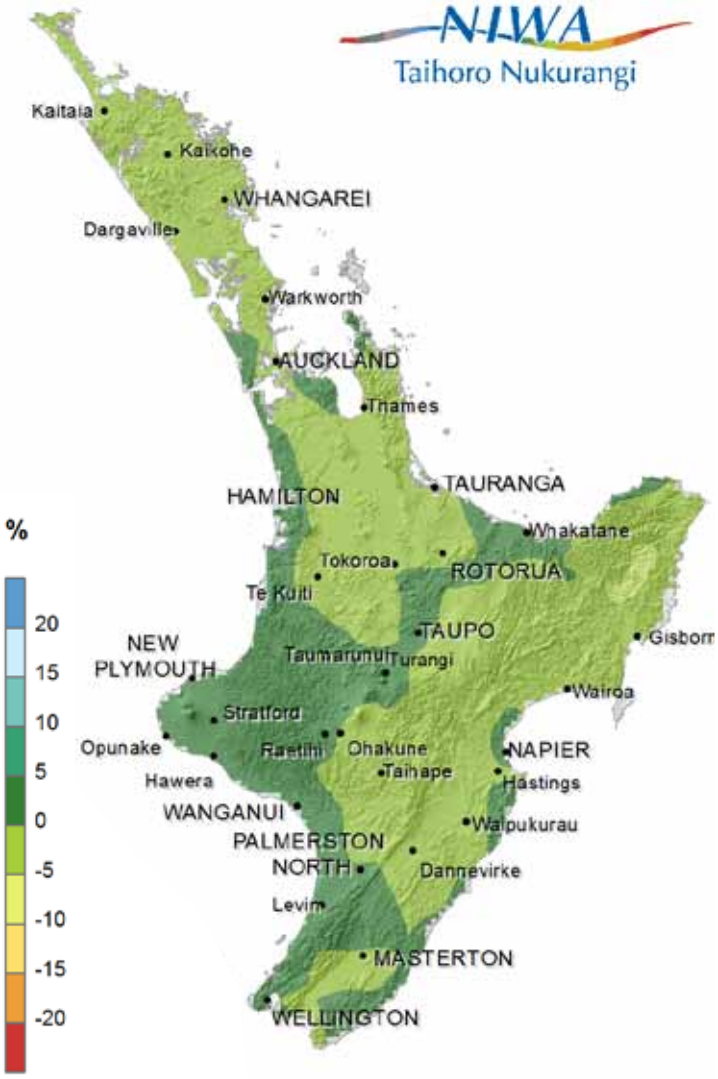
In general rainfall in the region is expected to decrease. The most pronounced changes to rainfall in the region will be felt in seasonal variations. The 2090 predicted changes for Tairawhiti include:

- 3-15% decrease in rainfall in spring
- 2-11% decrease in summer
- 0-5% increase in autumn
- 2-13% decrease in winter

From what is currently known, no changes in the amount of extreme rainfall experienced in the region is expected (Ministry for the Environment, n.d).



Annual Mean Temperature Change Between 1995 and 2055



Annual Mean Rainfall Change Between 1995 and 2055

Extreme weather events

The number of days spent in drought annually may increase significantly by the end of the century. Predictions to changes in wind include increased westerly wind flow in winter and north-easterly wind flow in summer. The frequency of ex-tropical cyclones in Tairāwhiti should remain constant, however, the intensity of those storms is predicted to increase (Ministry for the Environment, n.d). The region's fire danger index is expected to increase with temperatures rising, decreased annual rainfall and stronger winds. The average length of the fire season in Tairāwhiti may increase by 70 per cent by 2040 and 80 per cent by 2090.

Sea level rise

The IPCC AR5 determined that sea level rise by 2100 to likely be in the range of 0.52-0.98 metres if we carry on the business as usual pathway (RCP8.5) (Ministry for the Environment, 2017).

From New Zealand records, calculations show that sea level in the 20th Century increased at approximately 1.7mm per annum Global trends in sea level rise have accelerated and this trend is expected to continue to rise. Current predictions using IPCC AR5 modelling have global average sea level rise at between 0.2-0.4m by 2060. Sea level predictions for 2090 carry a higher level of uncertainty and are placed between 0.3 and 1.0m. The position of New Zealand within the Southwest Pacific Ocean means that an additional 0.05m is expected in sea level rise by 2090. The more significant figure to calculate which will have the most impact on Tairawhiti is relative sea level rise which considers vertical land movement. Regions with a small tide range (i.e. less than 2m); which include Gisborne, Napier, Picton and Wellington, are more sensitive to sea level rise as an increase in sea level will contribute to a larger portion of the existing tide (Motu Economic and Public Policy Research, 2017).

Sea level in New Zealand (or the Australasian region) is expected to rise 10% more than the global average. However, the actual amount of sea level rise is dependent on many dynamic environmental systems affected by climatic warming. These processes are thermal expansion of the ocean and the melting of glaciers and ice sheets (National Ocean Service, n.d).

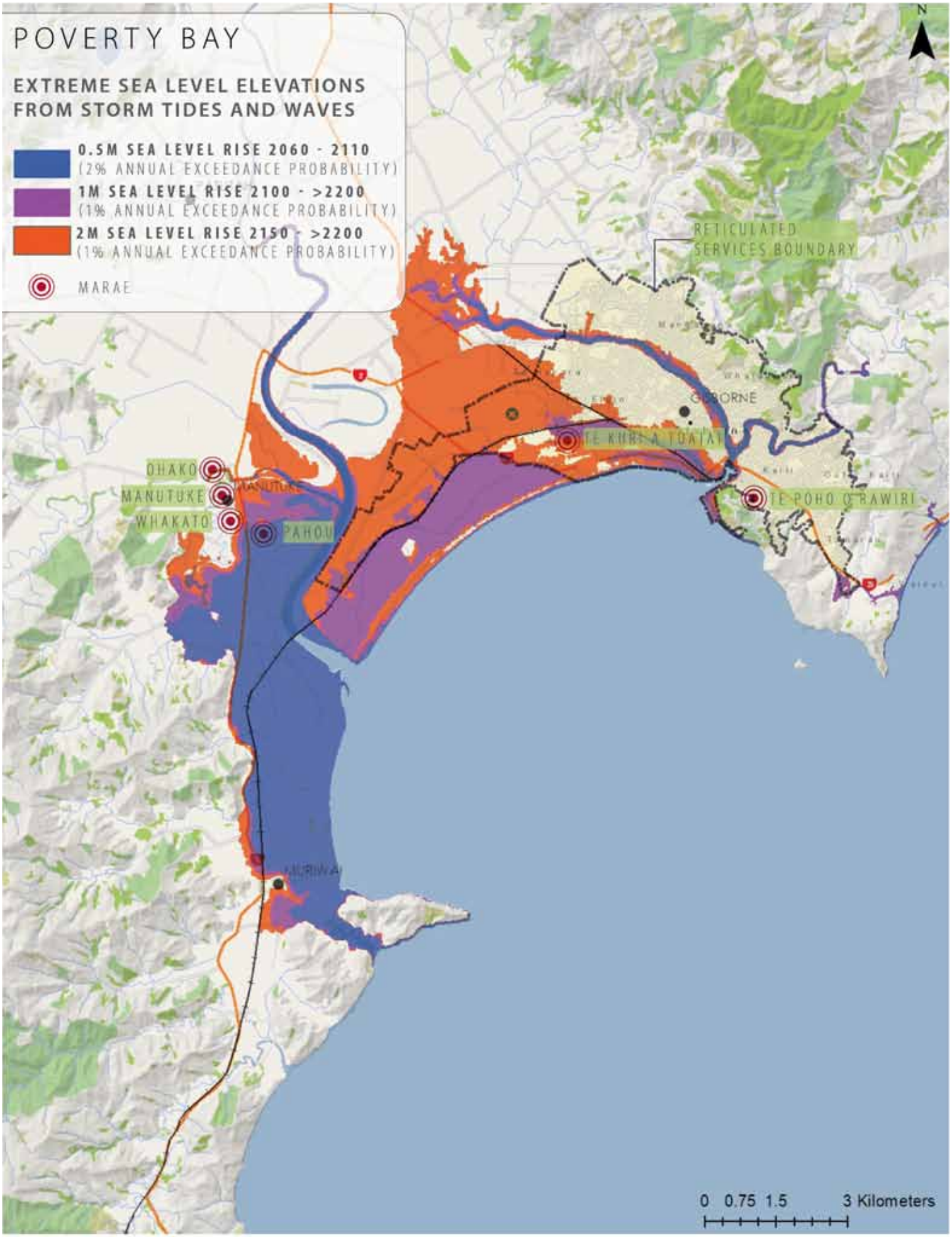
Ecosystem effects

Biodiversity. Climate change may see the health of many of the region's ecosystems decline. The distribution of native plants and animals may shift southward and to higher latitudes as the climate warms and rainfall patterns change. The abundance of species may change due to temperature increases, rainfall distribution, extreme weather, changes to ocean circulation and sedimentation and water quality decline in rivers.

Key species affected include shellfish, plankton and crop pollinator species. If these changes occur, they will have flow on effects throughout ecosystems.

Biosecurity. Warmer temperatures may allow establishment of new exotic pests, weeds and diseases which are currently prevented by New Zealand's climate. Tropical and subtropical pests may become established in many ecosystems in NZ which is a significant concern. Some of these species are at high risk of outcompeting native species and those of economic significance (McGlone and Walker, 2011). Established pest species may have extended breeding seasons and reduced mortality. This will increase abundance (Moore and Allard, 2008).

Two key plant diseases are Kauri Dieback and Myrtle Rust. The Ministry for Primary Industries has identified Tairāwhiti as a region at high risk of further infection from Myrtle Rust (Gisborne District Council, 2018). Kauri die back is a less mobile pathogen (The Kauri Dieback Programme, n.d) as it is carried in soil instead of spread by wind.


POVERTY BAY
EXTREME SEA LEVEL ELEVATIONS FROM STORM TIDES AND WAVES
0.5M SEA LEVEL RISE 2060 - 2110
(2% ANNUAL EXCEEDANCE PROBABILITY)
1M SEA LEVEL RISE 2100 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
2M SEA LEVEL RISE 2150 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
MARAE
RETICULATED SERVICES BOUNDARY
GISBORNE
TE KURU A TOAIA
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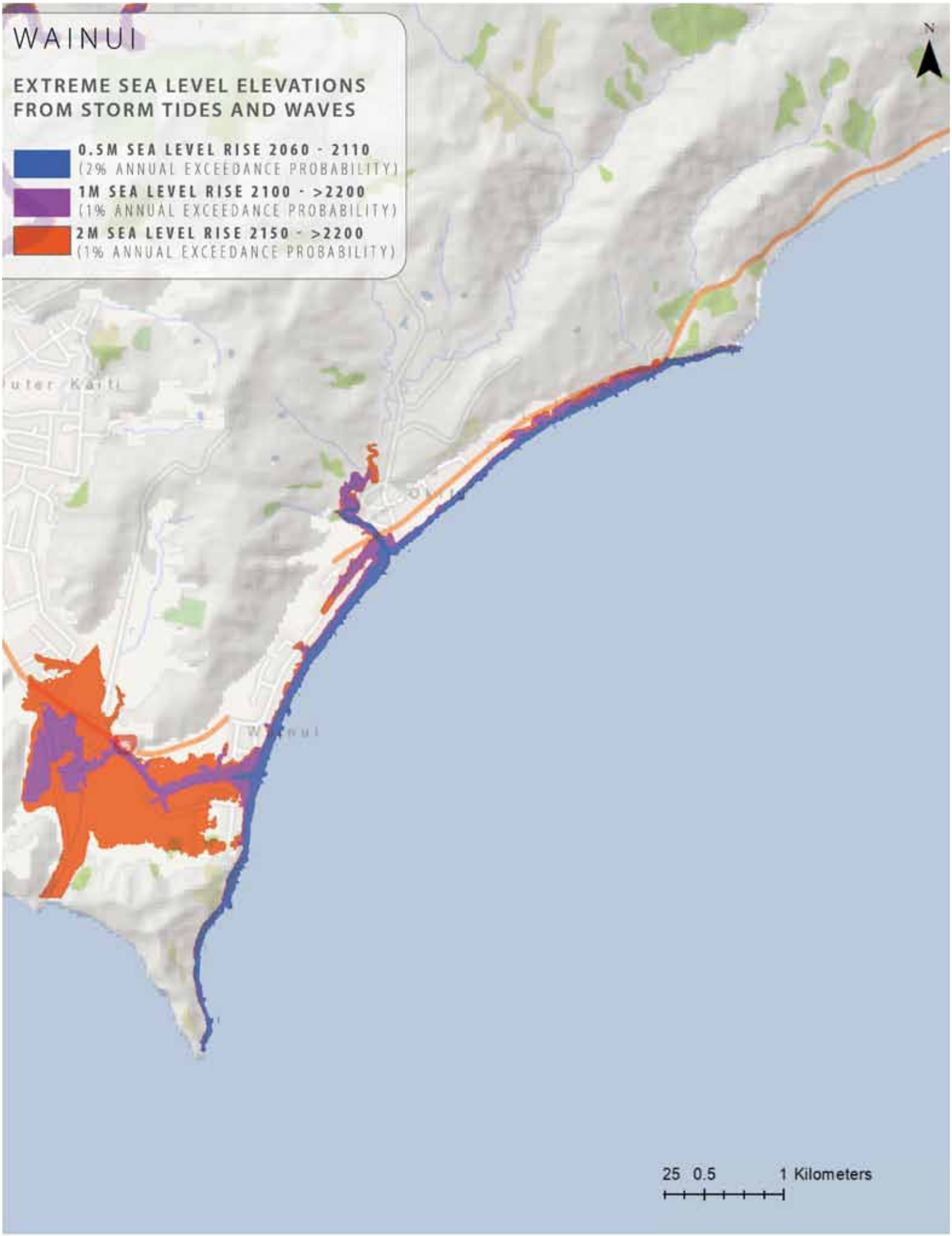
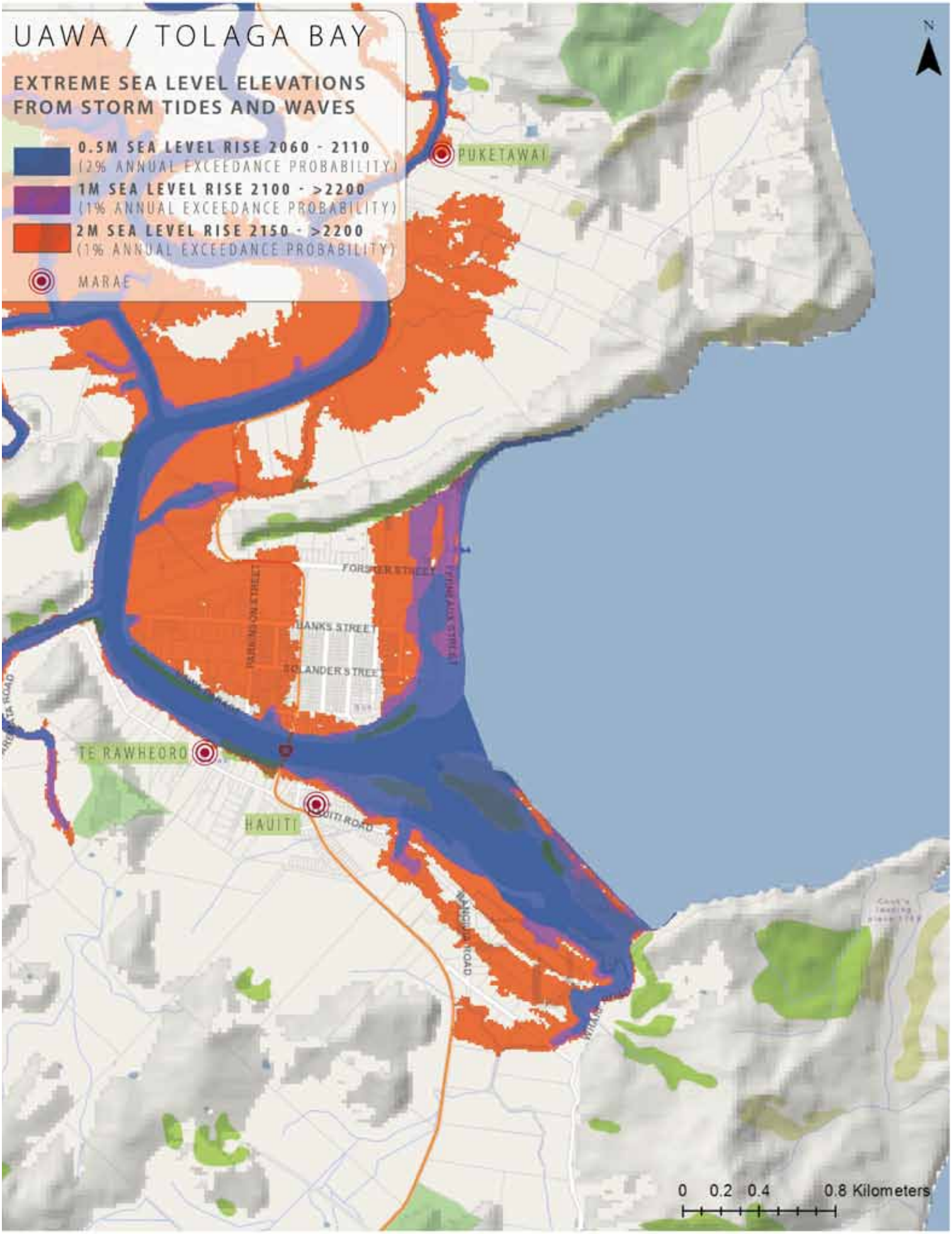
0 0.75 1.5 3 Kilometers



TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN | SHAPE: RESILIENCE


UAWA / TOLAGA BAY
EXTREME SEA LEVEL ELEVATIONS FROM STORM TIDES AND WAVES
0.5M SEA LEVEL RISE 2060 - 2110
(2% ANNUAL EXCEEDANCE PROBABILITY)
1M SEA LEVEL RISE 2100 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
2M SEA LEVEL RISE 2150 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
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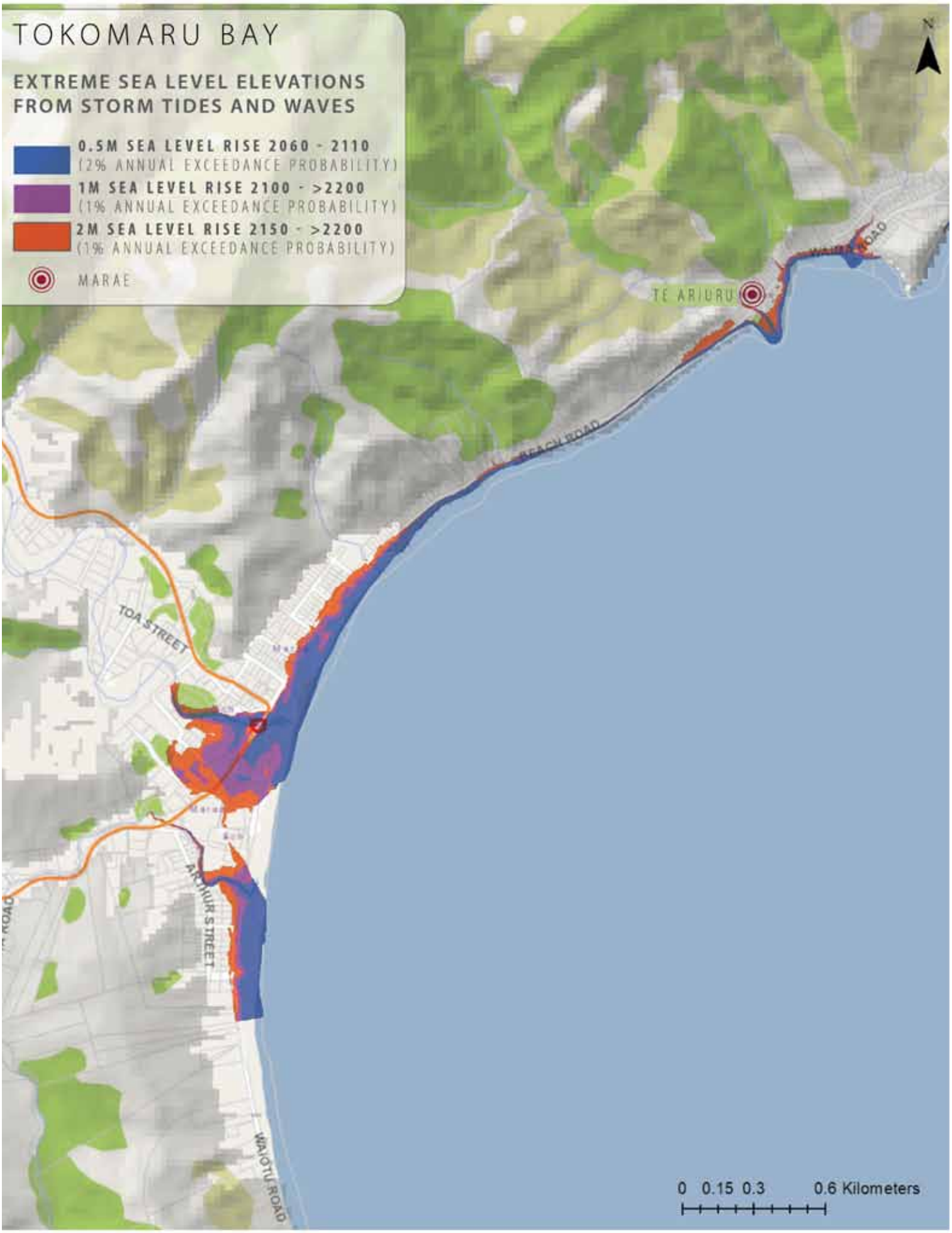
TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN | SHAPE: RESILIENCE


TOKOMARU BAY
EXTREME SEA LEVEL ELEVATIONS FROM STORM TIDES AND WAVES
0.5M SEA LEVEL RISE 2060 - 2110
(2% ANNUAL EXCEEDANCE PROBABILITY)
1M SEA LEVEL RISE 2100 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
2M SEA LEVEL RISE 2150 - >2200
(1% ANNUAL EXCEEDANCE PROBABILITY)
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TE ARIURU
BEACH ROAD
TOA STREET
ARTHUR STREET
WAIOTU ROAD
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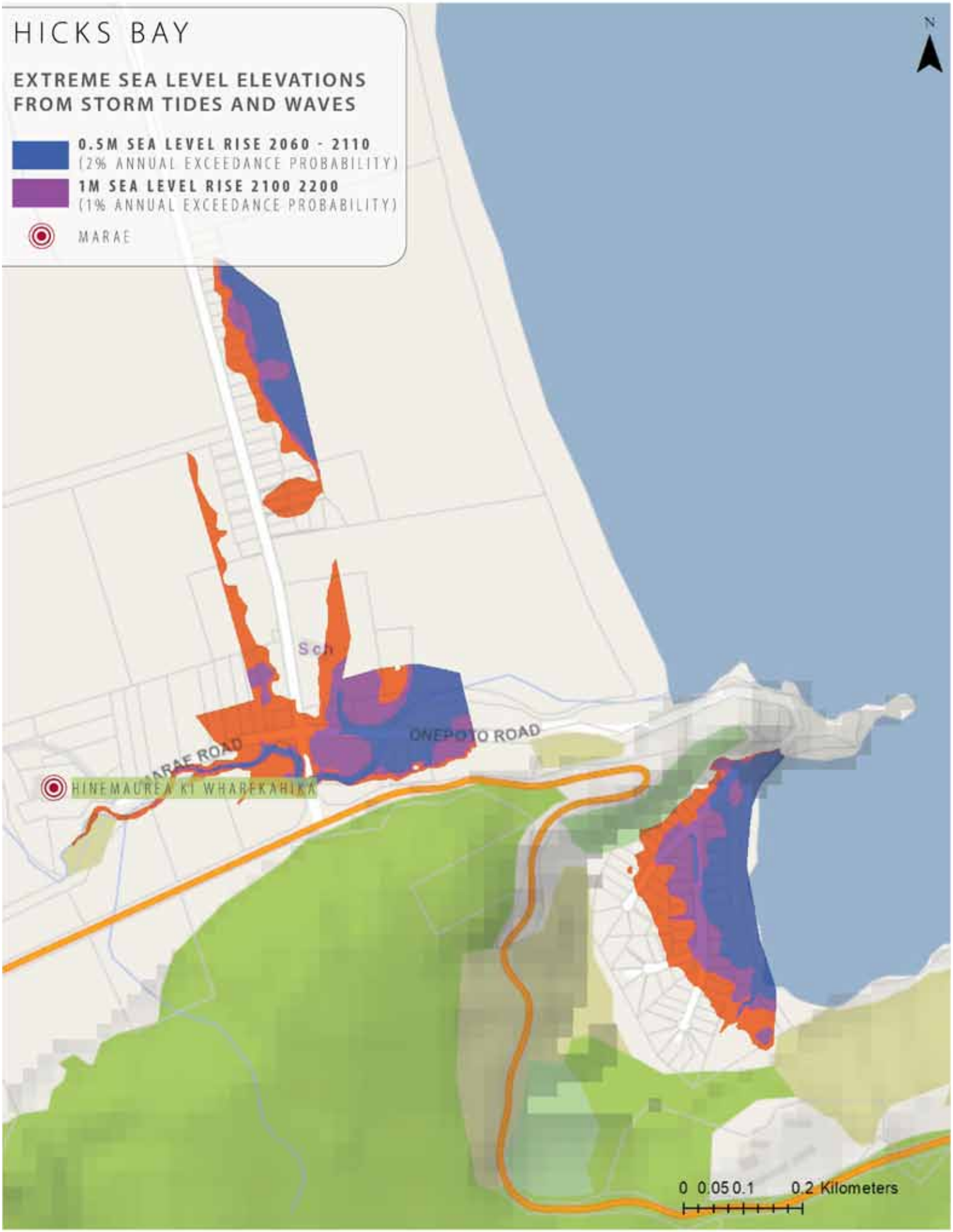
TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN | SHAPE: RESILIENCE


HICKS BAY
EXTREME SEA LEVEL ELEVATIONS FROM STORM TIDES AND WAVES
0.5M SEA LEVEL RISE 2060 - 2110
(2% ANNUAL EXCEEDANCE PROBABILITY)
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(1% ANNUAL EXCEEDANCE PROBABILITY)
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Effects on primary industry

Soil health. Climate change is expected to have direct and indirect impacts on soil health and overall productivity may decline. Erosion may mean loss of fertile top soil. Available moisture levels may also decrease causing reduced plant growth. Soil may become more saline due to saltwater intrusion from sea level rise. Poor soil health in turn effects plant and animal productivity and water quality.

Crop health. A significant portion of the Tairāwhiti economy is based on primary industries. Changes in temperature may mean a longer growing season for crops. Increases in productivity are likely to be constrained by water availability, which may reduce growth and increase mortality. Crops are also predicted to reach maturity faster in warmer temperatures.

Changes in climate may require changes to the type of crop and pasture grown in Tairāwhiti. Crops that are resilient to warmer temperatures and extreme weather events will be necessary. Changing climatic conditions in Tairāwhiti may adversely affect many of the crops grown in the Poverty Bay Flats such as those that require plentiful water and good drainage (i.e. lettuce) and frost to break dormancy (i.e. kiwifruit, apples). Overall warmer temperatures could reduce the quality and quantity of produce grown.

Animal health. Livestock health may be put under increasing pressure. Heat stress in sheep and cattle will increasingly be problematic. Health issues such as facial eczema may become widespread. Pasture production is predicted to vary annually requiring extra feed to maintain livestock health.

Forestry. Radiata pine plantations are predicted to experience increased growth of 19 per cent by 2040 and 37 per cent by 2090. Productivity may be constrained by pests, insects and diseases and wild fire. Planting of exotic tree species, a popular climate change mitigation strategy, may contribute to an increase in fire hazard. The effects of plantation forestry on the region's rivers, estuaries and beaches may be intensified under conditions created by climate change.

Forestry Slash. During a severe storm event woody debris from commercial forestry operations can cause mobilisation of logs in the catchments of the region. The effects of woody debris mobilisation include significant clean-up costs to debris caught in bridges and washing up on beaches. Transfer of soil and silt into the river system has amenity impacts on aquatic systems and water quality. Increases in storm intensity

Health effects

Health effects upon the community may include heat stroke and injury or death due to extreme weather events (i.e. flooding). Indirect effects could include increased incidence of disease such as salmonella and shellfish poisoning and new mosquito borne disease such as Ross River Virus and dengue fever (Royal Society Te Apārangi, 2017).

Under climate change conditions the municipal water supply is also at risk of contamination through storms and water borne pathogens. The reliability of rural tank water supply may decrease, leading to reliance on untreated drinking water. Incidences of anxiety and depression many increase due to the emotional and financial implications of a changing climate (i.e. farming communities and displaced people). A benefit of warmer winter temperatures may be reduced air pollution from household wood burners. This may be offset with increased dust and pollen in the atmosphere.

Effects on community infrastructure

Stormwater and wastewater networks are going to be affected by sea level rise and extreme rainfall events. Heavier storms with heavy rainfall may exacerbate current issues with the Gisborne drain network. This may cause mean increased discharge into our waterways. Prolonged drought conditions can also cause blockages and subsequent overflows of the wastewater network (Motu Economic and Public Policy Research, 2017).

Sea level rise could lead to salt water intrusion into soil and waterways and raise the groundwater table which may deteriorate materials used in the network such as pipes. An increase in sea level may also reverse flows in network outlet pipes. This can disrupt biological processes at treatment plants and backflow may reach community assets such as parks and roads.

Water security. The region may suffer from shortage of freshwater during periods of low rainfall and drought. Drinking water, irrigation and businesses may be impacted and reduces in demand may be required. There may be opportunities for capture and subsequent storage in periods of increased rainfall such as increasing dam capacity.

Parks and recreation areas. Trends of decreased rainfall in winter and increased summer rainfall would be favourable for green spaces in the region although more intense storms may be damaging. Strain on water supplies may limit the ability to irrigate areas such as sports fields in summer, degrading the quality of turf.

Waste management. Temperature and rainfall changes are predicted to effect transfer stations and landfills. Risks include surface flooding increasing, changes in biosecurity risks and increases in contaminant leaching due to storms and a rising water table.

Roads. Tairāwhiti has unstable geology which means the regional roading network is vulnerable to storm events and therefore prone to closure. The effects of extreme weather events may include traffic disruption from flooding, landslides, trees and lines falling in the road corridor and strong wind exposure causing troubles with heavy vehicles on the roads. Increased maintenance needed for roads, footpaths and cycleways can also be expected.

Road surface melt may also increase as temperatures at the surface of the road increase relative to air temperature.

Damage to private property. Private property may increasingly experience damage from flooding, inundation and coastal erosion. Damage from flooding may affect properties that are in low lying areas or within river flood plains. The Tairāwhiti coast is susceptible to erosion. This could be exacerbated by climate change. Damage to properties such as what we have seen at Wainui may increase.

WHAT DON'T WE KNOW?

There is a significant uncertainty to how climate change will affect Tairawhiti. This uncertainty in predictions grows as the timeframe expands to the end of this century and into next century.

The extent of the climatic changes are dependent on the environmental system and its feedbacks such as the extent of Antarctic ice sheet melt/collapse. Secondly, we do not yet know how to respond to climate change as a region in terms of both adaptation and response. Other local authorities around New Zealand have been working on strategies for responding to climatic changes and their effects such as the exacerbation of natural hazards. The Ministry for the Environment has put together guidance suggesting a Dynamic Adaptive Pathway Plan (DAPP) as a way of planning in the face of uncertainty (Ministry for the Environment, 2017).

Responding to climate change: work underway

- Waipaoa Stop bank upgrades to protect the surrounding land from a 1 in 100 year flood event (climate change effects catered for until 2090)
- Coastal hazard lines assessments
- Managed Aquifer Recharge
- Hazard updating work
- Report to December Council (overview of potential regional effects + options for Council to think about to respond)
- Rules in Freshwater plan focussing on demand management
- Integrated catchment management plan
- MPI funding research into adaptation and resilience (climate change). The Sustainable Land Management and Climate Change (SLMACC) Research Programme is funded and led by MPI to aid the agricultural and forestry sectors manage climate change challenges. This initiative has provided a series of research reports on these topics such as Climate change and community resilience in the Waiapu Catchment-June 2014.
- TRMP review

Further work to be undertaken

- Zero Carbon Bill
- Levels of service for drainage review
- Workshopping with Councilors on how they see their role with regard to climate change
- Flood hydraulic mapping
- Flood scheme condition assessment

POLICY FRAMEWORK

The policy framework guiding climate change can be divided into international, national and regional aspects.

International Policy Direction

New Zealand has made climate change commitments under the United Nations Framework Convention on Climate Change, the Paris Agreement and the Kyoto Protocol.

The combined effect of these agreements at a National level is a commitment to reduce New Zealand's greenhouse gas emissions:

- to between 10 per cent and 20 per cent below our 1990 levels by 2020
- to 30 per cent below 2005 levels by 2030
- to 50 per cent below 1990 levels by 2050.

Meeting these commitments requires a significant reduction in emissions nationally as well as significant use of carbon sinks (such as forests which absorb CO2).

National Policy Direction

There is a range of legislation that directs Council to plan and prepare for the effects of climate change. Either directly as is the case with the Resource Management Act 1991 (RMA) or indirectly as with the Local Government Act 2002 (LGA).

Under the RMA Council must have particular regard to the effects of climate change when managing the use, development and protection of natural resources.

The RMA focusses on adapting to or mitigating these effects, rather than managing the causes of climate change. Greenhouse gas mitigation is controlled by Central Government.

The LGA requires Council to meet the current and future needs of the community through provision of infrastructure, public services and regulatory functions. This will mean focusing on both mitigation and adaptation of climate change.

Climate change will also alter Council's roles and responsibilities under other legislation due to change in environmental systems such as:

- Civil Defence Emergency Management Act 2002
- Land Transport Management Act 2002
- Transport Act 1962
- Building Act 2004
- Local Government (Rating) Act 2002
- Biosecurity Act 1993.

Regional Policy Direction

The Tairawhiti Resource Management Plan (TRMP) is a unitary plan for the region, created to fulfil Council's responsibilities under the RMA. Section 10 of the plan covers natural hazards and section 10-6 specifically addresses climate change.

Council's Financial and Infrastructure Strategies sit within the 2018-2028 Long Term Plan (LTP). These strategies are important as climate change will have significant implications to infrastructure in Tairawhiti as well as major financial implications to the region. The funding of required infrastructure upgrades to ensure a resilient community in the face of climate change. Natural hazards and climate change are identified in the current financial strategy as being a key challenge that we must plan for better to ensure there is enough money committed to budgets for repairs and maintenance. Council reserves were flagged as infrastructure that may be costly to maintain.

Tairawhiti CDEM Group Plan 2016-2021

This document sets out the plan for managing emergencies in Tairawhiti. It was primarily written to guide and inform the agencies involved (central and local government, emergency services, lifeline organisations and non-government organisations [NGOs]) in civil defence activities.

The key ambitions of the plan are:

- Reduction: promoting robust reduction activities that reduce the hazards to Tairawhiti
- Readiness: Communities that understand, are prepared and participate in Civil Defence Emergency Management
- Response: Enhancing the CDEM Group's ability to manage emergencies in Tairawhiti
- Recovery: Enhancing the CDEM Group's ability to recovery from emergencies in Tairawhiti

The plan explores the link between climate change and civil defence. Climate change is predicted to lead to:

- Increased coastal flooding
- Increased tsunami inundation
- Increased fire danger
- Increased risk of drought, landslides and erosion
- Increased flooding
- Increased coastal erosion
- Increased pests and diseases

Wainui Erosion Management Strategy 2014

This document sets out Gisborne District Council's strategy for managing coastal erosion at Wainui Beach. The Strategy is intended to sit within a broader vision of integrated management of Wainui Beach that conserves and enhances the environment for future generations.

The shoreline of Wainui Beach is dynamic with rapid erosion events during storms followed by slow rebuilding of the dunes (accretion). Decadal climate cycles, including the Interdecadal Pacific Oscillation, influence the severity and frequency of storms, resulting in decadal cycles of erosion and accretion. In addition, climate change may increase the severity of storms and therefore enhance the frequency and severity of erosion events. The impacts of sea level rise due to climate change on the position of the shoreline may not be realised for several decades, but ultimately sea level rise is expected to cause shoreline retreat.

Erosion at Wainui Beach is primarily seen as a risk for property rather than human safety. Over 100 private properties are located adjacent to the beach south of Hamanatua Stream. Twenty eight of these properties have dwellings within the coastal hazard zone 'Extreme Risk Area' identified in Councils plans. This means these dwellings have been identified as potentially at risk from erosion resulting from one storm. In the northern part of the beach private properties are set back from the beach but the Wainui Surf Club and reserve carparks could be threatened by erosion.

Regional land transport plan 2018-2028

This plan sets out the issues, objectives and prioritises roading projects in the region. Tairawhiti has a transport network susceptible to natural disasters and climate change that leads to road closures, poor road condition excessive wear and tear on vehicles and resultant economic loss. Resilience has been identified as a strategic regional priority in the plan however, the effects of climate change on the roading network are not well discussed beyond this. The plan also discusses ensuring integrated planning to support public transport and active transport modes. The support of these modes will decrease greenhouse gas emissions from vehicle transport in the region.

Regional Pest Management Plan 2017

The purpose of the RPMP is to outline the framework to efficiently and effectively manage or eradicate specified organisms in the Gisborne District. Pest organisms are described alongside the management technique used to regulate the distribution, eradication or exclusion of the pest. The effects of climate change on the pest organisms in Tairawhiti are not discussed in this plan although current climate is mentioned and weather pattern is stated as a factor that effects pest organisms and their control.

Waste Minimisation Plan 2018-2024

This plan investigated ways in which Tairawhiti can reduce waste to landfill. Waste in landfills is a contributor to methane emissions to the atmosphere (a form of greenhouse gas emission).

Coastal hazard mapping 2016

Gisborne District Council (GDC) have commissioned Tonkin & Taylor Ltd (T&T) to review and update their existing ASCH to a specific Area Susceptible to Coastal Erosion (ASCE) for all beaches and cliffed coastline in the Gisborne District not already covered by the more detailed Coastal Erosion Hazard Assessments (5 locations).

Coastal inundation and extreme sea level elevation mapping 2015

Gisborne District Council commissioned NIWA to model and map areas that are potentially affected by coastal-storm inundation, for the parts of the Gisborne District coastline where elevation data of sufficient resolution is available to undertake the mapping: Poverty Bay, Wainui, Tolaga Bay, Anaura Bay, Tokomaru Bay, Hicks Bay and Te Araroa. Coastal-storm inundation was calculated from a combination of storm tide plus wave setup.

Four coastal-storm inundation scenarios were mapped:

1. Extreme sea level with a 1% annual exceedance probability at present-day mean sea level.
2. Extreme sea level with a 2% annual exceedance probability, plus a 0.5 m sea-level rise by 2065 (in 50 years).
3. Extreme sea level with a 1% annual exceedance probability, plus a 1.0 m sea-level rise by 2115 (in 100 years).
4. Extreme sea level with a 1% annual exceedance probability, plus a 2.0 m sea-level rise with no specified timeframe.

At Wainui, the four scenarios were also re-mapped, using storm tide plus wave run up, because the coast at Wainui tends to rise continuously with distance from the sea and does not have extensive low-lying coastal plain, and the extent of wave run up is indicative of areas potentially exposed to wave impact.

What have our communities told us in the past?

There has been a lack of previous consultation except for specific projects that have a link to the changing climate such as Wainui erosion management

The community's views on climate change effects, preparedness and potential adaptation and mitigation pathways and action could be recorded through consultation on the spatial plan

Stakeholders have been involved in two recent plans which relate to climate change

- The Freshwater Plan (currently going through mediation) and
- The Wainui Erosion Management Strategy

From consultation for other plans and strategies during the past 5 years the community has told us that in general they value

- involvement and collaboration
- ecological health and biodiversity (riparian planting, green spaces, ecosystem health, increased forestry biodiversity)
- having high quality water
- water quantity and availability
- being able to enjoy our environmental assets
- effective design of infrastructure
- investing in current and future infrastructure

What have iwi told us in the past?

Council has not directly discussed climate change with iwi. MPI has completed a study of climate change and community resilience of the Waiapu Catchment. The community aspirations were:

- The restoration and utility of biodiversity;
- Knowledge of the natural environment and sites of cultural importance;
- Increased economic wellbeing and prosperity for all the community;
- Poverty eradication;
- Mana motuhake;
- A healthy and well educated community;
- Access to the financial and physical resources the community needs;
- Restored ecosystem services; and,
- A vibrant hapu/whanau community and well-used Marae (Ministry for Primary Industries, 2014)

Gisborne District Council – staff feedback

Insurance/Liability

- Who pays? Such as when communities need to be relocated-central govt., local government, property owners? A funding mechanism for any strategy is key. Will central government bring out guidance for this?
- Insurance changes could have a significant influence on our aspirations
- Insurance accessibility and affordability will be a significant issue emerging as the climate changes
- Post Christchurch earthquake the government is signalling that local authorities will have to pay for 100% of their insurance (instead of 40% LG and 60% CG currently)
- Council infrastructure is grouped as above and underground for insurance. Most insurance is to cover damage from natural disasters

Water

- LGA requires Council to undertake a water and sanitary assessment from time to time. Tairawhiti's one will need to be updated soon and could have major implications for coastal communities
- Communities are currently self-managing water harvesting. This may need to change.

Community perceptions

- The community want continuous provision of services at current or enhanced level
- The impacts of climate change are debated and will be difficult to agree on due to high level of uncertainty
- We need to ensure community buy in/ownership of any climate change strategy
- Behaviour change and culture shifts will be required

Planning implications

- Council needs to define what a creditable event is for Tairawhiti so that we can appropriately plan for this
- Council needs to adopt a position and agree on what climate change parameters we are planning for (i.e. what year/ scenario or sea level, rainfall amount etc.)
- Council lacks a policy and resourcing to deal with climate change
- We need plans such as the infrastructure strategy to be more adaptive
- Managing seasonal changes (i.e. supply and demand for freshwater) - may need to look at additional water storage
- Infrastructure capacity issues

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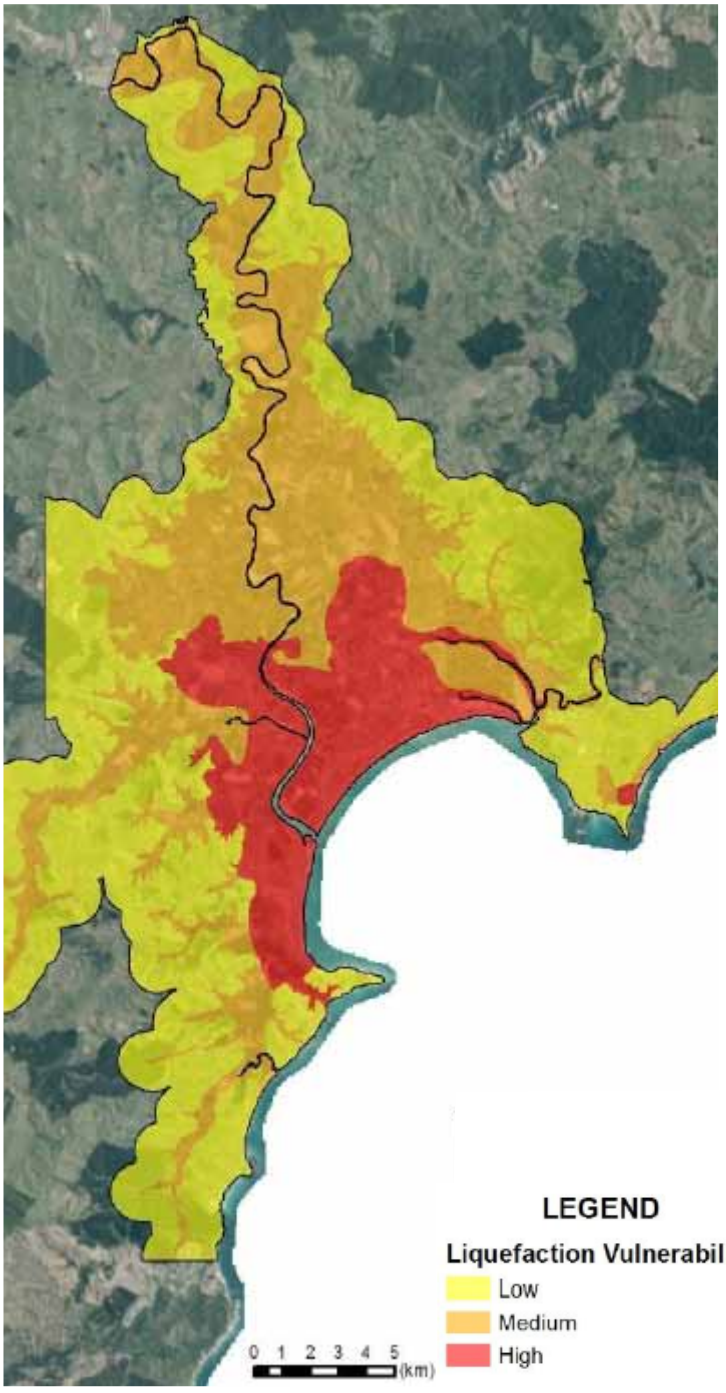
RESILIENT COMMUNITIES - NATURAL HAZARDS

BACKGROUND

In a recent report by Lloyds of London (2018), New Zealand was classed as the country second most vulnerable to natural hazards after Bangladesh (who suffer from a lot of flooding). Furthermore, as a country, we rank fourth for insurance penetration. We have slipped in our insurance rankings after the Christchurch earthquake in 2011.

In the Hazard Risk Profile for the Gisborne Region (Gisborne District Council, 2015) a list of possible hazards affected the Gisborne region was outlined. These hazards are:

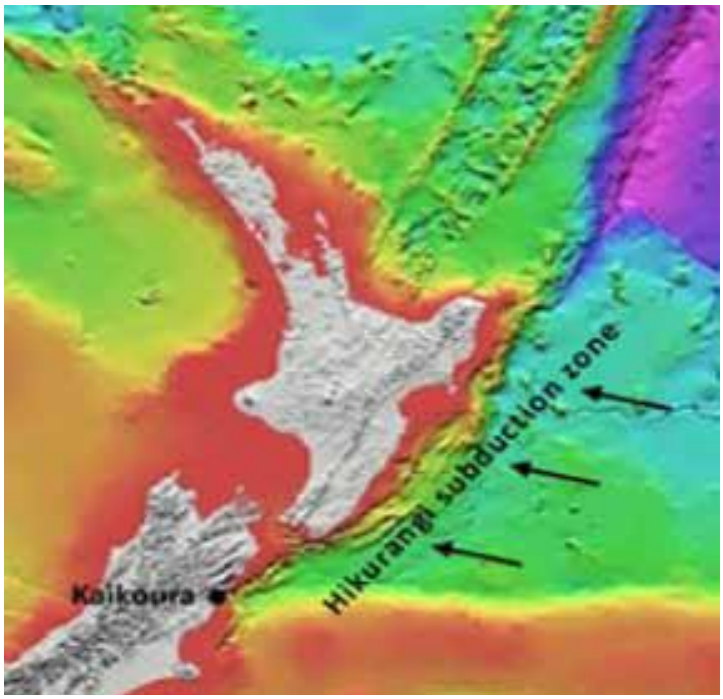


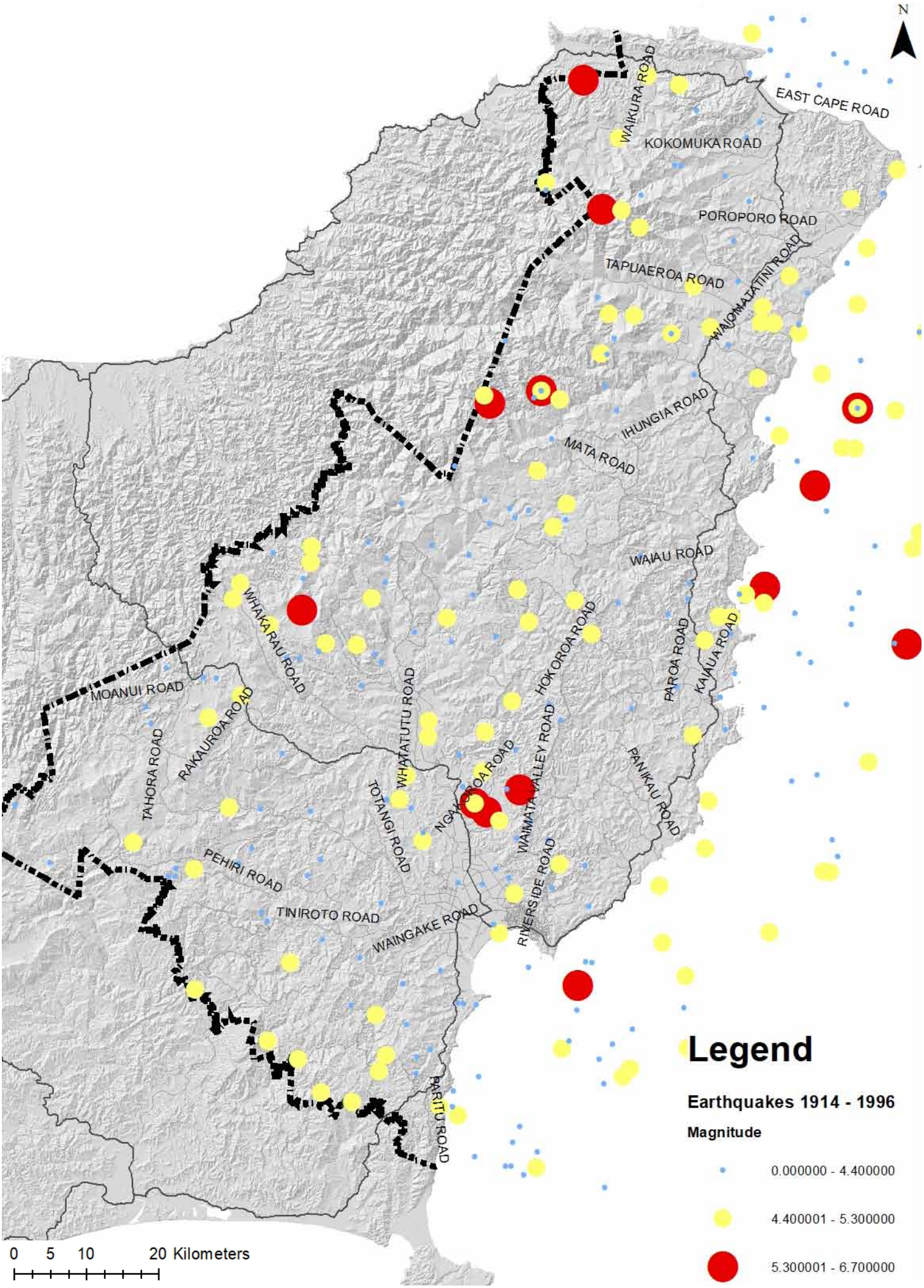
Earthquake

The Gisborne Region sits just west of the Hikurangi trench where the Pacific Plate is subducting under the Australian (Te Ara, n.d.). Earthquakes occur when pressure from these colliding plates is suddenly released and the earth's crust ruptures and moves.

In recent years, the most damaging earthquakes in the region were in 1966 (magnitude 6) and 2007 (magnitude 6.8). Three buildings collapsed in the 2007 earthquake in Gisborne City and 23 more were barricaded and closed. Damage to commercial buildings was $50 million and homeowners made more than 6,000 insurance claims (Te Ara, n.d.).

Earthquakes pose risks to property and people through ground shaking, surface fault ruptures, soil liquefaction and earthquake induced landslides.

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WAIKURA ROAD
EAST CAPE ROAD
KOKOMUKA ROAD
POROPORO ROAD
TAPUAEROA ROAD
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IHUNGIA ROAD
MATA ROAD
WAIAU ROAD
HOKOROA ROAD
PAROA ROAD
KAJAJA ROAD
WHAKARAU ROAD
MOANUI ROAD
RAKAUROA ROAD
TAHORA ROAD
WHATATUTU ROAD
TOTANGI ROAD
NGAKOROA ROAD
WAIMATA VALLEY ROAD
PANIKAU ROAD
PEHIRI ROAD
TINIROTO ROAD
WAINGAKE ROAD
RIVERSIDE ROAD
PARITU ROAD
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Legend
Earthquakes 1914 - 1996
Magnitude
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4.400001 - 5.300000
5.300001 - 6.700000

Tsunami

Tsunami are waves caused by the displacement of water. The most frequent source of damaging tsunami are large earthquakes (magnitude greater than 8) and 80% of such earthquakes are located around the margins of the Pacific Ocean.

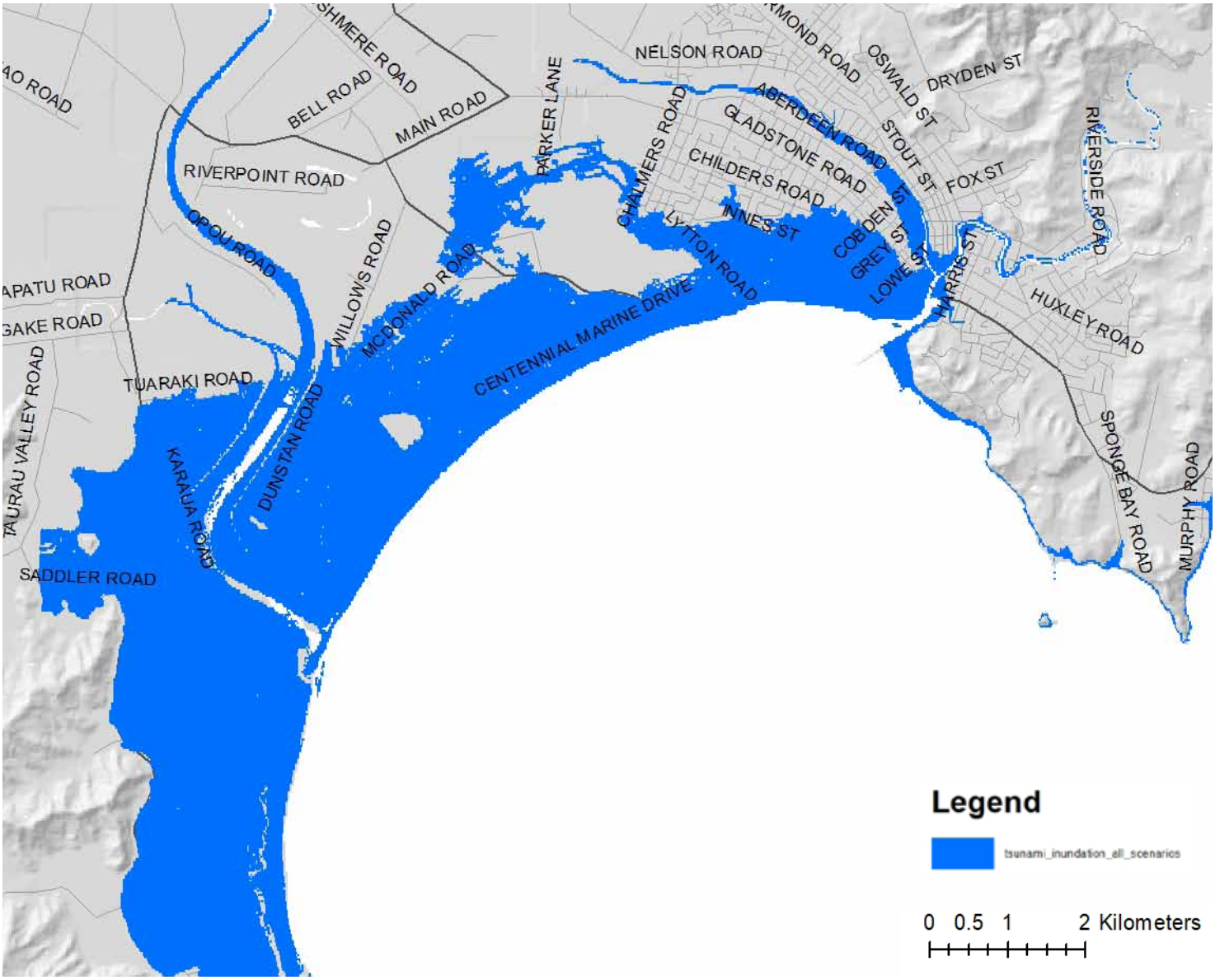
The tsunami hazard varies along the New Zealand coastline and the hazard is comparatively high in the Gisborne Region compared to many other regions (GNS, 2013, as cited in GDC, 2014). It is located adjacent to the Hikurangi Subduction Margin, a significant source of sea floor displacement. Tsunami generated in the Hikurangi Subduction Margin may arrive at our coastline in ten minutes to half an hour. Tsunami generated from parts of Chile and Peru are also a major contributor to the tsunami hazard in our region but have much longer arrival times of over fourteen hours (GNS, 2009, as cited in GDC, 2014).

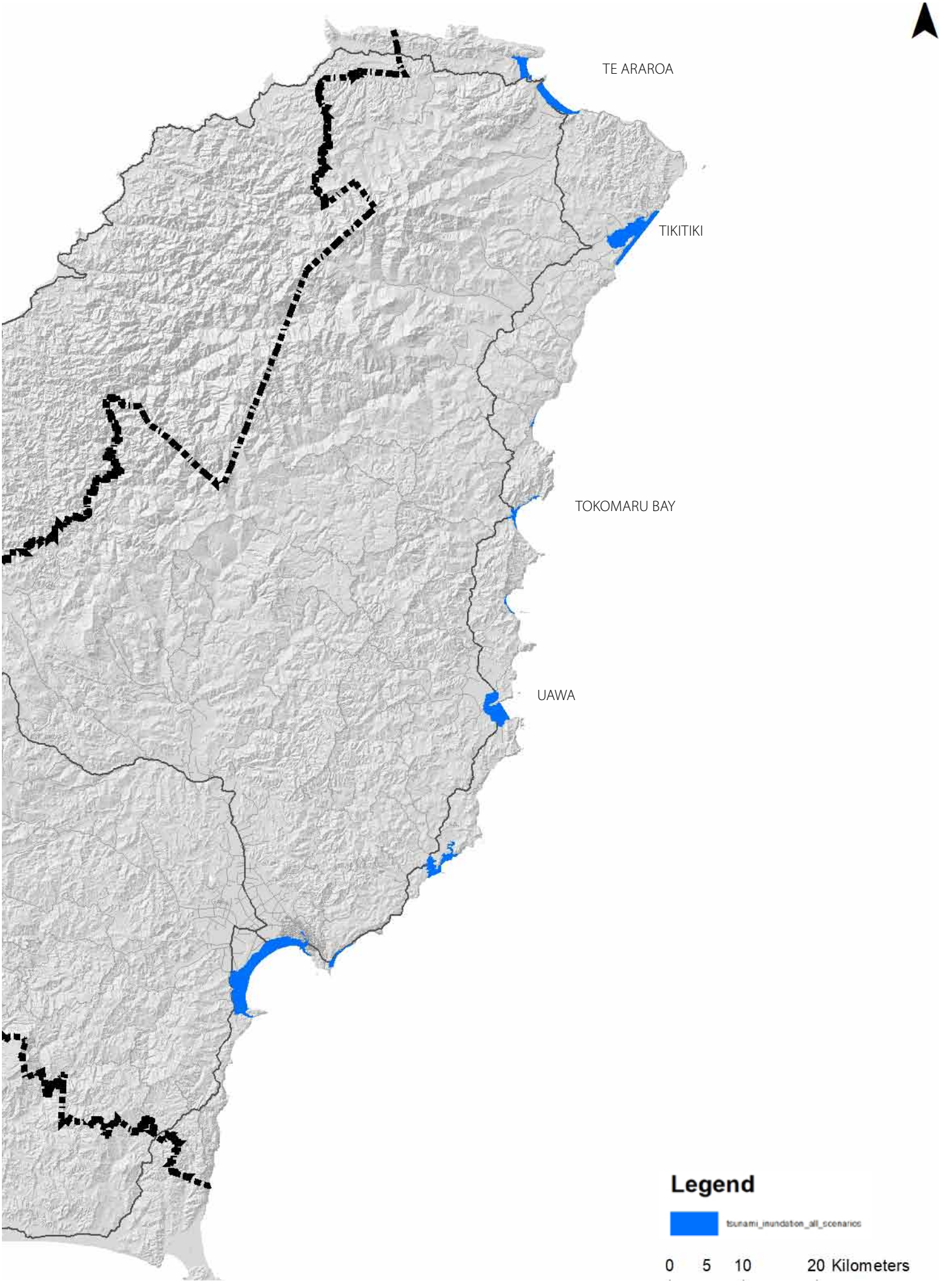
The largest tsunami in New Zealand's recorded history occurred in the Gisborne region. On 26 March 1947, a seemingly minor earthquake jolted the Gisborne area, generating a tsunami that 30 minutes later swamped the coast from Muriwai to Tolaga Bay. The Tatapouri Hotel and a cottage at Turihaua were destroyed by a 10-metre wave. The Pouawa River bridge was carried 800 metres upstream. At Te Mahanga Beach the tsunami shifted a house off its piles, and at Murphy's Beach six hectares of pumpkins disappeared out to sea. Less than two months later, on 17 May 1947, another offshore earthquake generated a tsunami that hit the coast between Gisborne and Tolaga Bay. At its maximum, north of Gisborne, this wave was about 6 metres high.

The GNS national probabilistic tsunami model (50th percentile) suggests the following tsunami heights at the coast of the Gisborne Region (GNS, 2013):

- 100 year return period: 4-6m
- 500 year return period: 6-8m in the south and 8-10m in the north
- 2,500 year return period: 8-12m in the south and 12+m in the north.

AREAS VULNERABLE TO TSUNAMI INUNDATION





AREAS VULNERABLE TO TSUNAMI INUNDATION

Coastal erosion

The position of the shoreline along the region's sandy beaches and low-lying or dune-fronted coastal areas is constantly changing. Rapid erosion may be experienced during storms or a series of storms, often followed by slow return and rebuilding of the coastline by natural beach processes. However, coastal erosion is expected to be exacerbated by climate change and rising sea levels, leading to permanent retreat of the shoreline in some areas.

Exposed coastal cliffs and headlands experience erosion as waves or weathering trigger landslide and collapse. Cliff retreat is expected to be greatest where there is a relatively higher rate of historical cliff retreat (e.g. Young Nicks Head, Makorori and Tuahine Points) (GNS, 2014).

Coastal flooding

Our coastline is regularly exposed to the extreme weather forces of the South Pacific Ocean. This means that coastal flooding as result of extreme weather events, potential sea level rise and coastal erosion (in some areas) is a reality for our communities.

When sea water levels and waves are significantly larger than normal they have the potential to flood the land and cause damage to structures and property. Historically, coastal flooding has not been recognised as a significant hazard in the Region. Sea level rise due to climate change is expected to significantly increase the frequency of coastal flooding, as is an increase in the number of storms (but to a lesser degree) (Reisinger et. al., 2014).

Drought

A drought is a prolonged period of dry weather (GNS, 2001). Drought events may be significant for the region's economy, given its large reliance on the primary sector and associated industries. Data from the Gisborne Airport climate station suggests there have been five droughts with a return period of more than 20 years since the 1940s. The largest of these was in 1987, which equated to approximately a 100 ARI event at that location.

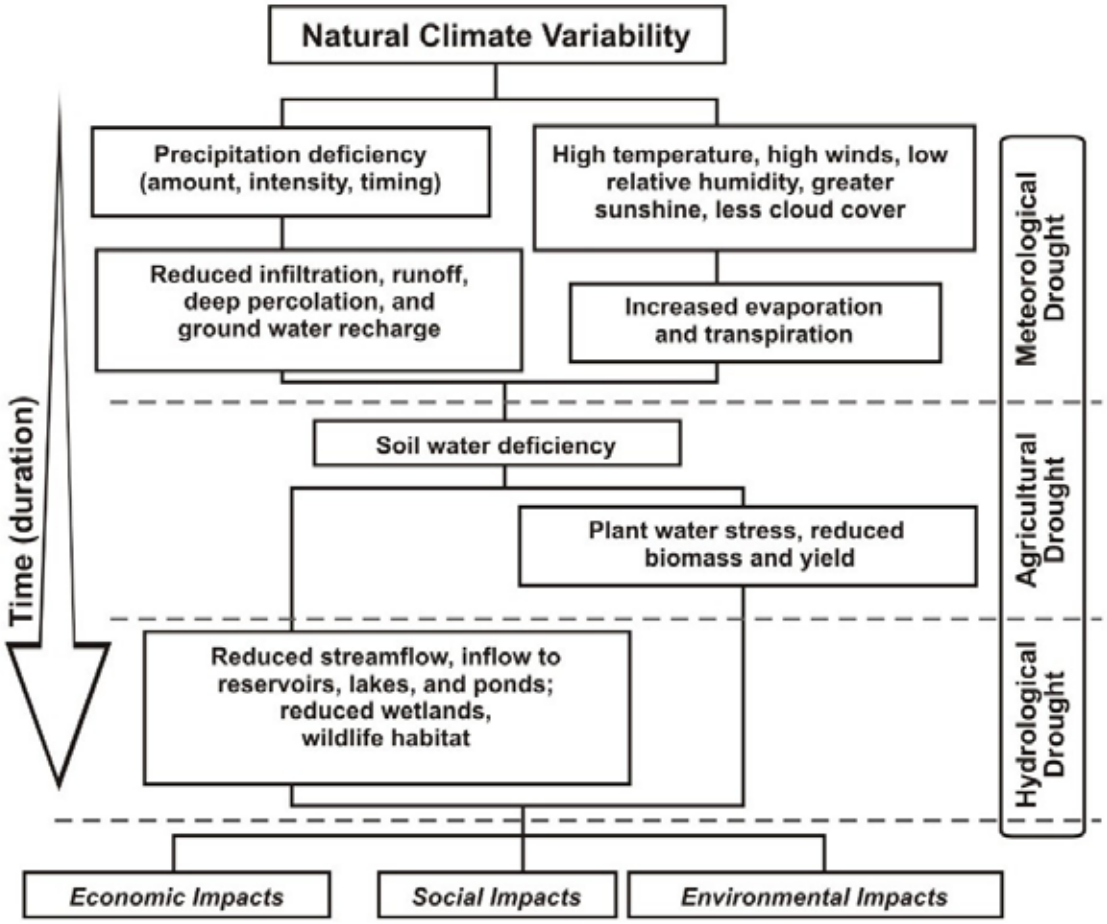
Time spent in drought in the Gisborne Region is projected to increase with climate change (Clark et. al., 2011).

Extreme temperature

Extreme temperatures are temperatures above or below generally experienced ranges.

Examples of the estimated 50 year ARI extreme temperature for Gisborne communities include 33.9oC for Waerenga-O-Kuri, 37.8oC for Gisborne and Wainui and 40.5oC for Ruatoria. The maximum temperature recorded in Gisborne city since 1905 was 38.1oC on 11 January 1979 (GNS, 2014).

Climate change is expected to result in an increase in mean temperatures and more frequent hot days.



Flooding

Flooding has been a significant hazard in the region, due to the large floodplains which support human settlement and intensive farming. The Poverty Bay Flats, which includes the Gisborne Urban Area, is the most intensively settled and developed floodplain. In the last hundred years large floods occurred on the Poverty Bay Flats in 1988 (Cyclone Bola), 1985, 1977, 1948 and 1906 (NIWA, 2011, as cited in GDC, 2014).

Flood control works give some protection but the floodplains are still vulnerable beyond the design of the protection works or if the protection works are breached. The Waipaoa stopbanks, the major flood control asset, is designed to handle the same water levels as experienced during Cyclone Bola. Continuing aggradation of the riverbed is reducing the capacity of the flood control works around Te Karaka (GDC, 2014).

Other significant areas at risk are the Mangatuna/Wharekaka area near Tolaga Bay and the Waiapu River Valley. Flooding can also occur in other flat or low lying areas (GDC, 2014).

Rainfall induced landslides

Landslides have a wide range of underlying causes but there are two dominant triggers of movement – rainfall and earthquakes. In New Zealand about 90% of all landslides are triggered by rainfall and different rainfall patterns produce different types of landslides (NIWA, n.d.).

Landslides can have serious health and safety consequences. The locations with the highest health and safety risk are roads adjacent to steep slopes or road cuttings and buildings located above or below steep slopes. Landslides are a primary cause of damage to roads and road closures.

Volcanic activity

There are 12 active volcanic areas in New Zealand. The type of hazards that will occur depend on which volcano is erupting (Ruapehu, Ngauruhoe, Tongariro, Auckland, Tarawera, Taranaki, Raoul Island or White Island) and the nature of the eruption. Potential volcanic hazards include: ash falls, pyroclastic flows, lava, lahar, landslide, electrical storm, volcanic gases, tsunami and hydrothermal eruption (GNS, n.d.).

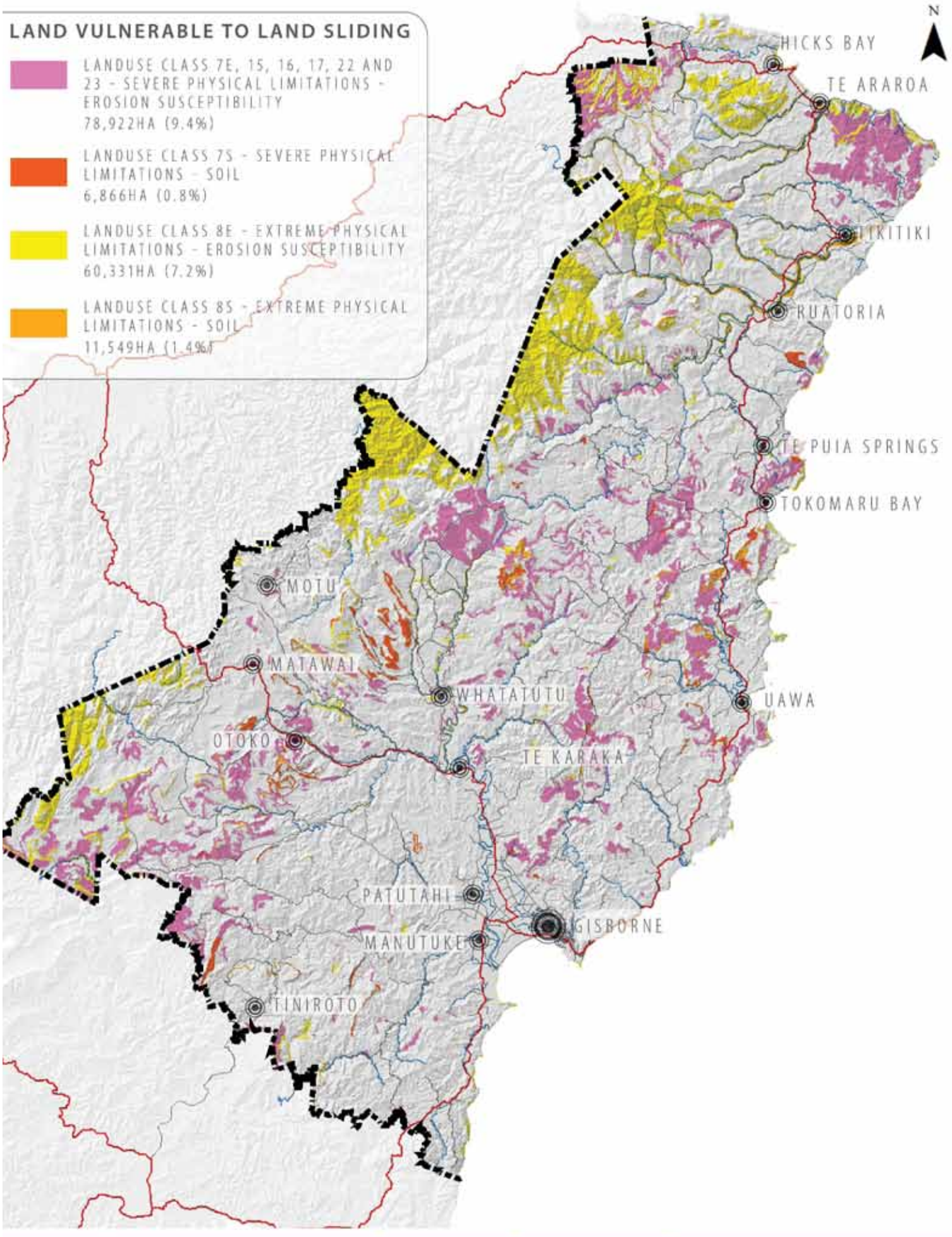
Other natural hazards

Other natural hazards affecting the region include:

- riverbank erosion
- extreme winds
- extreme cold temperatures
- snowfall
- mud volcanoes

An overall risk evaluation of natural hazards ranked extreme temperature and drought highly in terms of their risk and priority for management. The risk of these hazards is expected to grow with climate change. Tsunami scored the highest for geological hazards. Earthquake fault rupture and earthquake induced landslides scored the lowest due to the very rare ARI and low expected consequences. Earthquake shaking and earthquake liquefaction however scored higher due to more risk for serious implications to the region.

A risk evaluation of non-natural hazards ranked human pandemic, traffic accident, criminal acts/civil unrest and terrorism highly in terms of their risk and priority for management.



TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN

RESILIENCE

LAND VULNERABILITY

0 5 10 20 Kilometers

WHAT DON'T WE KNOW?

- Where ownership of the natural hazards portfolio sits (post Integrated Catchments department creation)
- What is the most creditable event that we are planning for?

Responding to climate change: work underway

- Review of Council's Regional Policy Statement
- Emergency managers, scientists, and key stakeholders are working together to develop the Hikurangi Earthquake and Tsunami (HEAT) Framework. The framework identifies what responding agencies and organisations can do before an event to increase their resilience, and response concepts which could be applied after a large Hikurangi subduction zone earthquake and tsunami.
- LIDAR mapping for the Tairawhiti region. Data will allow a higher accuracy of natural hazard risk mapping. For example inundation modelling will be able to be completed at level 4 which requires complex computer modelling but it will mean less people will need to be evacuated unnecessarily in future inundation events.

Further work to be undertaken

- Wider review of Council's Tairawhiti Resource Management Plan. This includes:
  - Efficiency and Effectiveness report on current provisions
  - Risk Profile for the region
  - Liquefaction study
  - Coastal flooding reports for region's coastline
  - Areas Sensitive to Coastal Erosion
  - Coastal erosion study for Northern Poverty Bay
  - Probabilistic study of tsunami hazard for Gisborne City and Wainui Beach
- EQC has recently committed to funding flood modelling for Waipaoa catchment. This was last completed in 1996 and was planned to be updated in 2017/18 however budget cuts meant this was postponed.
- MfE guidance on Dynamic Adaptive Pathways Planning
- Changes underway to RMA
- Flood hydraulic mapping
- Flood scheme condition assessment

POLICY FRAMEWORK

The strategic framework guiding climate change can be divided into international, national and regional aspects.

National Legislative Framework:

The key pieces of legislation relating to the management of natural hazard risks in New Zealand are the:

Resource Management Act 1991 (RMA)

The RMA defines natural hazards as:

Any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.

Section 6(h) lists the management of significant risks from natural hazards as a matter of national importance. Effective planning for, and management of, risks from natural hazards through resource management plays a critical role in reducing the potential adverse effects of natural hazards.

Central Government provides guidance on management of coastal hazards through the New Zealand Coastal Policy Statement 2010. Local authorities manage hazards through regional policy statements, regional plans and district plans (Environment Foundation, 2018).

Local Government Act 2002 (LGA)

The Local Government Act provides the general framework, obligations, restrictions and powers under which local authorities operate. The Act describes "the avoidance of or mitigation of natural hazards" as a core service, which a local authority must have particular regard to its contribution in its communities (Section 11A).

The Act empowers local authorities to make bylaws, including for the purpose of protecting, promoting, and maintaining public health and safety (Section 145).

It also sets out their specific powers to remove works in breach of bylaws (Section 163) (Environment Foundation, 2018).

Civil Defence and Emergency Management (CDEM) Act 2002

The CDEM Act directs the management of hazards and risks, and emergency response and recovery, through coordinated and integrated policy, planning and decision-making processes at the national and local level. It sets out the duties, functions and powers of central government, local government, emergency services, lifeline utilities and the general public.

Building Act 2004

The Building Act provides for the regulation of building work, the licensing regime for building practitioners, and the setting of performance standards for buildings. It manages natural hazards in relation to the construction and modification of buildings.

Regional Legislative Framework:

The Tairawhiti Resource Management Plan (TRMP) is a unitary plan for the region, created to fulfil Council's responsibilities under the RMA. Section C8 of the plan covers natural hazards.

Council's Financial and Infrastructure Strategies sit within the 2018-2028 Long Term Plan (LTP). These strategies are important as natural hazards and climate change will have significant implications to infrastructure in Tairawhiti as well as major financial implications to the region. The funding of required infrastructure upgrades to ensure a resilient community in the face of natural hazards climate change. Natural hazards and climate change are identified in the current financial strategy as being a key challenge that we must plan for better to ensure there is enough money committed to budgets for repairs and maintenance. Council reserves were flagged as infrastructure that may be costly to maintain.

Tairawhiti CDEM Group Plan 2016-2021

This document sets out the plan for managing emergencies in Tairawhiti. It was primarily written to guide and inform the agencies involved (central and local government, emergency services, lifeline organisations and non-government organisations [NGOs]) in civil defence activities.

The key ambitions of the plan are:

- Reduction: promoting robust reduction activities that reduce the hazards to Tairawhiti
- Readiness: Communities that understand, are prepared and participate in Civil Defence Emergency Management
- Response: Enhancing the CDEM Group's ability to manage emergencies in Tairawhiti
- Recovery: Enhancing the CDEM Group's ability to recovery from emergencies in Tairawhiti

Regional land transport plan 2018-2028

This plan sets out the issues, objectives and prioritises roading projects in the region. Tairawhiti has a transport network susceptible to natural hazards and climate change that leads to road closures, poor road condition excessive wear and tear on vehicles and resultant economic loss. Resilience has been identified as a strategic regional priority in the plan.

Wainui Erosion Management Strategy 2014

This document sets out Gisborne District Council's strategy for managing coastal erosion at Wainui Beach. The Strategy is intended to sit within a broader vision of integrated management of Wainui Beach that conserves and enhances the environment for future generations.

The shoreline of Wainui Beach is dynamic with rapid erosion events during storms followed by slow rebuilding of the dunes (accretion). Decadal climate cycles, including the Interdecadal Pacific Oscillation, influence the severity and frequency of storms, resulting in decadal cycles of erosion and accretion. In addition, climate change may increase the severity of storms and therefore enhance the frequency and severity of erosion events. The impacts of sea level rise due to climate change on the position of the shoreline may not be realised for several decades, but ultimately sea level rise is expected to cause shoreline retreat.

Erosion at Wainui Beach is primarily seen as a risk for property rather than human safety. Over 100 private properties are located adjacent to the beach south of Hamanatua Stream. Twenty eight of these properties have dwellings within the coastal hazard zone 'Extreme Risk Area' identified in Councils plans. This means these dwellings have been identified as potentially at risk from erosion resulting from one storm. In the northern part of the beach private properties are set back from the beach but the Wainui Surf Club and reserve carparks could be threatened by erosion.

Coastal hazard mapping 2016

Gisborne District Council (GDC) have commissioned Tonkin & Taylor Ltd (T&T) to review and update their existing ASCH to a specific Area Susceptible to Coastal Erosion (ASCE) for all beaches and cliffed coastline in the Gisborne District not already covered by the more detailed Coastal Erosion Hazard Assessments (5 locations).

Coastal inundation and extreme sea level elevation mapping 2015

Gisborne District Council commissioned NIWA to model and map areas that are potentially affected by coastal-storm inundation, for the parts of the Gisborne District coastline where elevation data of sufficient resolution is available to undertake the mapping: Poverty Bay, Wainui, Tolaga Bay, Anaura Bay, Tokomaru Bay, Hicks Bay and Te Araroa. Coastal-storm inundation was calculated from a combination of storm tide plus wave setup.

Four coastal-storm inundation scenarios were mapped:

1. Extreme sea level with a 1% annual exceedance probability at present-day mean sea level.
2. Extreme sea level with a 2% annual exceedance probability, plus a 0.5 m sea-level rise by 2065 (in 50 years).
3. Extreme sea level with a 1% annual exceedance probability, plus a 1.0 m sea-level rise by 2115 (in 100 years).
4. Extreme sea level with a 1% annual exceedance probability, plus a 2.0 m sea-level rise with no specified timeframe.

At Wainui, the four scenarios were also re-mapped, using storm tide plus wave runup, because the coast at Wainui tends to rise continuously with distance from the sea and does not have extensive low-lying coastal plain, and the extent of wave runup is indicative of areas potentially exposed to wave impact.

CONSULTATION

What have our communities told us in the past?

- Our communities have mentioned that they valued safety in general, the management of erosion, and the improvement of infrastructure such as stormwater networks to protect against natural hazards such as flooding.
- With respect to natural hazards there is a lack of community consultation that has been completed recently except in the case of the Wainui Erosion Mgmt. Strategy.
- Resident's satisfaction surveys indicated that the public want the Tsunami warning system to be updated to have a siren

What have iwi told us in the past?

- MPI has completed a study of climate change and community resilience of the Waiapu Catchment. Iwi aspirations include:
  - The restoration and utility of biodiversity;
  - Knowledge of the natural environment and sites of cultural importance;
  - Increased economic wellbeing and prosperity for all the community;
  - Poverty eradication;
  - Mana motuhake;
  - A healthy and well educated community;
  - Access to the financial and physical resources the community needs;
  - Restored ecosystem services; and,
  - A vibrant hapu/whanau community and well-used Marae (Ministry for Primary Industries, 2014)

Gisborne District Council – staff feedback

- We don't have a comprehensive understanding and how to manage that risk
- The problem with hazards Building Code view (50 years) in Auckland they were moving people out of 100 year flood plains. In Tairawhiti we have people in 10 year flood plains. Building Code view isn't planning best practice. Community expectation-they don't want to be exposed to a 10 year flood-not acceptable to them.
- People don't understand the relative risk on a LIM-10 year flood plain people don't understand what that is 10% chance of flooding every year
- We put a notice on your property-people don't accept that-we have normalised a notice on a property. You let me build. You're still going to bail me out aren't you?
- We let them build there and put a notice on their title-we knew and still let them do it –a big liability as a council if some of these hazards come to head
- Individuals have bought into choices and now have to wake up to risk
- There is expectation that property will increase in value not decrease in value
- There is a large proportion of people who do not get a LIM before buying a property

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RESILIENT COMMUNITIES - INFRASTRUCTURE

COASTAL, LAND DRAINAGE, RIVERS AND FLOOD CONTROL

Coastal Assets

Activity description

Most of Council's coastal assets are found in the Wainui and Okitu beach protection scheme. Assets include a mixture of sloping rock revetment, rock filled gabion baskets, steel groynes and a wooden groyne. There are also some minor assets on the eastern end of Waikanae Beach.

Council's management of the Wainui and Okitu Beach Erosion Scheme is guided by the Wainui Beach Erosion Management Strategy, which proposes only limited replacement hard protection works. Movement of property back from the shoreline is considered the most appropriate long-term approach for the beach.

Strategic drivers

As sea levels rise, communities including Wainui, Anaura Bay, Tokomaru Bay, Te Araroa and Hicks Bay will be increasingly exposed to coastal hazards of erosion and flooding by the sea during storms and tsunami.

Hard engineering structures within the coastal environment are unlikely to be suitable long term solutions if the shoreline undergoes significant permanent retreat in response to projected sea level rise.

Council's future management of the Wainui and Okitu Beach Erosion Scheme is consistent with the Wainui Beach Erosion Management Strategy, which proposes only limited replacement hard protection works. Movement of at-risk property back from the shoreline is considered the most appropriate long-term approach for avoiding or reducing the risk to property from coastal erosion.

Flood control

Activity description

Council administers and maintains two flood control schemes, one river improvement scheme, and one river erosion protection scheme within the District:

- Waipaoa Flood Control Scheme
- Te Karaka Flood Control Scheme
- Turanganui-Taruheru Rivers Scheme
- Waiapu Erosion Protection Scheme.

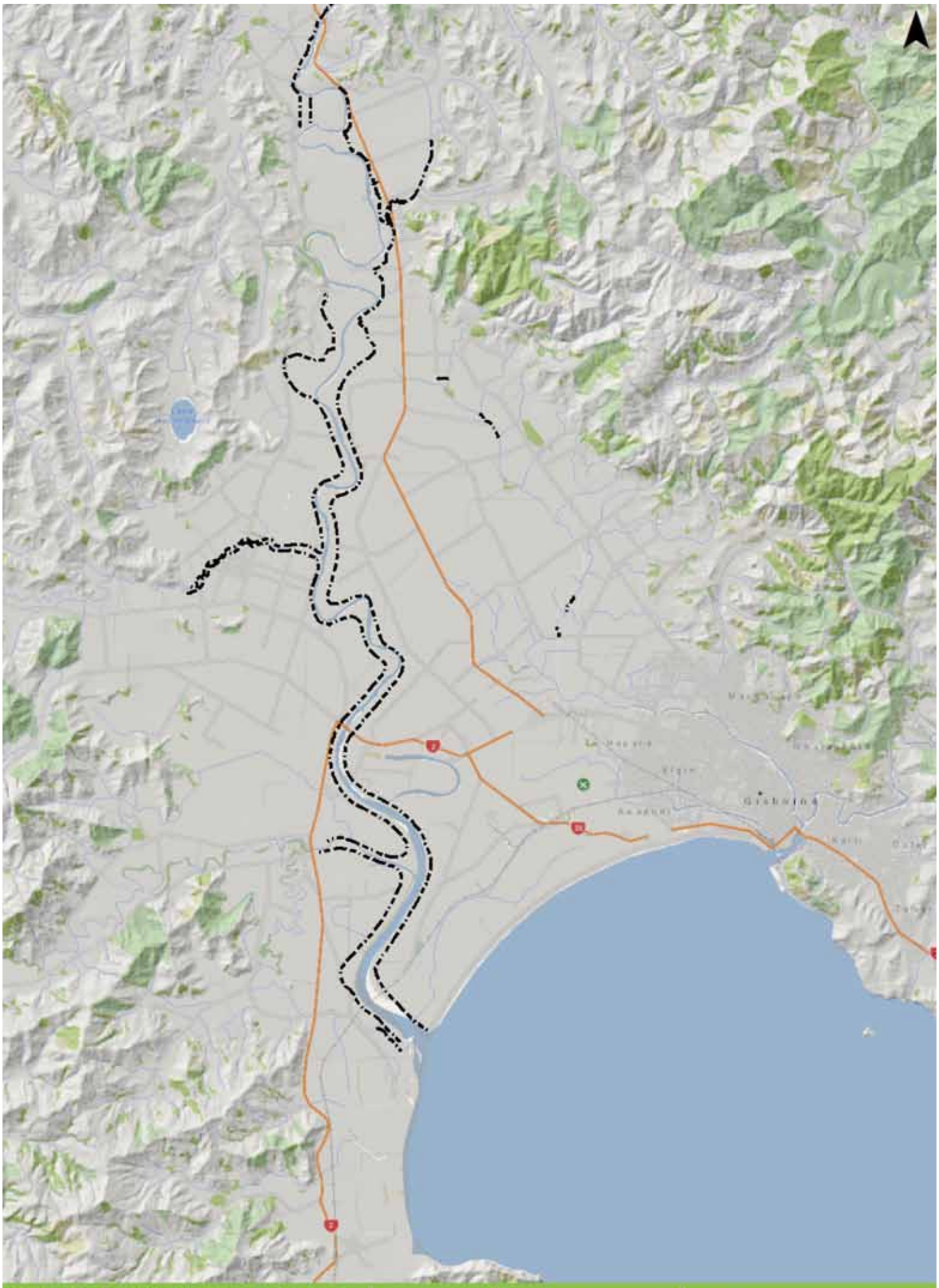
Together these schemes include 47km of river channel, 68km of stopbanks, and 740 hectares of floodway land.

Strategic drivers

Storm frequency and intensity, flooding magnitudes and sea levels are expected to increase across Gisborne as a result of climate change. Over time the Waipaoa and Te Karaka schemes have also been losing capacity due to aggradation of the Waipaoa River.

If no action is taken, the level of protection offered by existing flood protection assets will be reduced and the risk of flooding to the Poverty Bay Flats will increase.

Council began a project to upgrade the Waipaoa Flood Control Scheme in 2014. It aims to increase the level of protection to a 1 in 100 year event (1% AEP), allowing for the effects of climate change out to 2090. It will also increase freeboard up to 0.6-0.9m to account for uncertainty in the design. This involves raising the stopbanks where necessary (up to 1m in places). The width of the stopbanks is also being increased to 4m to improve resilience against bank erosion.


TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
RESILIENCE
WAIPAOA FLOOD CONTROL SCHEME
0 0.75 1.5 3 Kilometers

Land Drainage

Activity description

Council constructs, administers and maintains a network of open drains across private farmland. They provide drainage to the Poverty Bay flats and other specific areas. A total of network of 277km of drains are maintained spanning 17 drainage districts. Assets include the drains, culverts, some erosion protection structures such as gabion baskets and flood control weirs.

Council undertakes this work for landowners who have entered into funding agreements to pay for drains.

Strategic drivers

Climate change is likely to reduce the level of service (that is the effectiveness) of stormwater and drainage infrastructure due to the possibility of increased intensity storms; and because raising sea levels will raise ground water levels and decrease hydraulic gradients.

River control

Activity description

Rivers asset management

Council is responsible for monitoring changes to the coast and river/stream channels that could affect our communities. We also advise stakeholders on preventative maintenance for rivers and streams, on issues such as flood control, coastal and land erosion protection, land drainage and foredune protection. River monitoring also provides timely flood warnings to the community for specified rivers.

River channel maintenance

Council provides essential river channel maintenance and infrastructure works for 303km of rivers and streams to protect land, properties and roads from erosion. We do this work in response to landowner requests as required by legislation

Strategic drivers

River berm siltation and channel aggradation is gradually reducing the capacity of the flood control scheme.

The scheme's capacity will need to be reviewed on an ongoing basis and upgrades are likely to be required to maintain existing levels of protection. The upgrading of the Waipaoa Scheme stopbanks to 1% AEP is underway.

Integrated Catchment Management Plans (ICMPs) are required under the Tairawhiti Resource Management Plan by 2025 and may impact on maintenance practices (and associated costs).

Stormwater

Activity description

Council owns and operates the public stormwater systems for:

Gisborne City including Makaraka and Wainui/Okitu, and

Urban areas in 12 rural communities (from Hicks Bay to Matawai)

The networks are largely piped with some assets associated with open drains (such as culverts and retaining walls).

The infrastructure was primarily developed to reduce flooding and facilitating drainage. However, the role of stormwater infrastructure to reduce levels of pollutants into waterways is now recognised and will be a greater focus for the future.

Strategic drivers

General

Gisborne city is a medium growth area. The population is set to increase by over 4000 in the next 30 years. This will mean more peak stormwater flows and contaminants to manage.

Limited information on asset condition to support asset valuations and renewal forecasts.

Modelling may show additional upgrades not currently budgeted for.

Greater focus required on critical assets and risks including maintenance, asset failure and health and safety risks.

Unclear ownership of, and responsibilities for maintaining some assets, such as streams and creeks through private property

Climate change

Climate change is likely to reduce the level of service (that is the effectiveness) of stormwater and drainage infrastructure due to the possibility of increased intensity storms; and because raising sea levels will raise ground water levels and decrease hydraulic gradients.

Asset management and condition

54km of brittle earthenware (clay) pipe is reaching the end of its expected useful life and in many cases in very poor condition or nearing failure.

A large portion of the piped network is relatively flat, resulting in a build-up of grit and increasing the risk of dry weather overflows.

Deterioration rates of components at the Wastewater Treatment Plant are greater than expected, especially on the industrial line.

Additional condition information is required on some asset types to improve confidence levels for asset valuations and renewal forecasts.

Reducing the Impacts of Stormwater Discharges on Waterways

The new Freshwater Plan requires Council to improve its understanding of how stormwater discharges affect water quality and to better manage these impacts. Because of the complexity involved, the Plan has taken a holistic planning approach, requiring Council to develop integrated catchment plans for the public stormwater system by 2025. While no specific capital or operational improvements are yet identified, we can expect a movement towards treatment of stormwater to remove contaminants in order to improve degraded water bodies such as the Taruheru River and Waikanae Stream.

Stormwater Inflow and Infiltration in the Gisborne City Wastewater Network

Several times each year, during times of wet weather, large volumes of rainwater enter the wastewater network overwhelming the system. Council then reluctantly opens relief valves that allow untreated sewage to discharge into waterways, in order to avoid overflowing sewage onto properties. But by 2020, Council must obtain resource consent for these wet weather overflows. The consenting process will consider the impact of the overflows and the measures proposed to reduce the risk. These Freshwater Plan requirements, combined with iwi and wider public concern over the overflows, is driving the reconsideration of measures taken to reduce the overflows. Council will be subject to 6-yearly review of its consent.

Inflow of stormwater from property flooding continues to contribute to overflows on private property and discharges to waterways during extreme wet weather. Our research suggests the direct inflow of stormwater from private property into the system (draining straight into gully traps or being piped from flooded areas or roofs into gully traps/wastewater laterals) contributes the greatest volume of rainwater entering the system. Therefore, resolving or significantly reducing on-property flooding is essential to reducing wastewater overflows. The options below focus on tackling this contribution to the issue.

Leaky private laterals between homes and the main network are thought to be contribute the next greatest volume.

Leaks in Council's wastewater system are thought to contribute a smaller volume to the issue. The 54km of brittle earthenware pipes that are reaching the end of their useful life are thought to be a focus area.

Wastewater

Activity description

Gisborne - comprises city sewer network, wastewater biological trickling filter treatment plant (constructed in 2010), and treated wastewater discharge via the marine outfall into Poverty Bay.

Council provides a separate wastewater network for Te Karaka, serving ~ 500 people.

Wastewater is treated in oxidation ponds and discharged into the Waipaoa River.

Council owns and administers septage disposal sites at Te Araroa, Tikitiki, Ruatoria (Waiapu) and Te Puia.

The remainder of communities in the Gisborne District are served by non-Council administered private septic tank systems. The administration and monitoring of the onsite wastewater systems is undertaken by the Regional side of Council, this is not included in the wastewater activity.

Strategic drivers

Dry Weather Overflows

The discharge of untreated wastewater can also occur during dry weather, without the system being overwhelmed by rainwater. For example, because of a pipe blockage, operational error, or failure of system component. Often, these 'dry weather overflows' are to land and the environmental impact is limited. However, if overflows enter waterbodies the contaminants are more concentrated than during wet weather overflows. Dry weather overflows to waterways are a non-complying activity under the Freshwater Plan for which Council has no consent.

Some pump stations don't have enough storage time to allow contractors to safely respond in an emergency, risking dry weather overflows.

Dry weather overflows have been formally catalogued since 2015/16. Twelve occurred in 2015/16, of which 3 went to waterways. Nine have occurred so far in 2016/17, of which 2 reached waterways.

Treatment and Disposal of Gisborne Wastewater

Conditions on the consent to discharge the city's wastewater through the marine outfall into the ocean require Council to improve treatment of the wastewater, to investigate alternate use and disposal options, and to undertake best endeavours to meet cultural objectives of removal of treated domestic waste from the marine outfall.

Transitioning away from the traditional take, make and waste model maximises the value of all resources through the introduction of initiatives such as wastewater use for irrigation.

Alternative use and disposal of treated wastewater remains a significant opportunity if challenges such as public perception, available markets and land suitability can be addressed.

Wastewater Services for Wainui and Makaraka

For Wainui and Makaraka, which are located at the edge of Council's reticulated water and wastewater services, proximity raises a question of extension to service these areas. Provision of reticulated water and wastewater for Wainui was considered in 2007 and rejected. There may also be wastewater contamination of freshwater from onsite wastewater systems these areas, but this needs to be better understood.

Council is also beginning to explore the implications of increased population and household projections for Gisborne city. Council's position is to maintain urban growth within the city's existing footprint. Infrastructure will be similarly retained within the current reticulated services boundary.

Te Karaka wastewater

Conditions on the consent for the disposal of treated wastewater from Te Karaka into the Waipaoa River are expected to be reviewed in about 2020. This is likely to bring to the fore questions about the long term treatment and disposal options for Te Karaka's wastewater.

Western industrial area

The area to the west of the city is zoned light industrial and within the reticulated services boundary. This reflects Council's desire to see this eventually become the industrial area serving Gisborne city. However, there are some potential issues with the wastewater system in this area including capacity to serve the demand and the way the system has been set up.

Water

Activity description

Council has three separate water supplies:

Gisborne city - serves a population of ~ 37,200 primarily in Gisborne city, but also in communities adjacent to the Waingake bulk water including Manutuke and Papatu Road. Water is sourced from the Te Arai River, Mangapoike dams and Waipaoa River.

Te Karaka. augmented supply – it provides a top-up to private rainwater (services ~ 500 people). Water is sourced from bores and treated.

Whatatutu- augmented supply, serving ~ 280 people with treated bore water.

All commercial / industrial water connections are metered and Council charges for actual water used (water pricing model also accounts for high water users who pay more due to availability charges).

Flows from Waingake water catchments via the Waingake treatment plant to Gisborne are generally gravitational and only during high summer flows booster pumping in the catchment and at the city boundary is required.

Water drawn from the Waipaoa River and treated at the Waipaoa Augmentation Plant is required to be pumped at various stages before it reaches the Gisborne reticulation network as it cannot rely on gravity flows. The additional power consumption due to pumping causes the direct production costs to be significantly higher than water sourced from the Waingake water catchments.

The Gisborne water supply is served by numerous booster pump stations and bulk storage reservoirs to ensure security of supply, balance demand and to provide sufficient flows and pressures for firefighting purposes. Additional booster pumping within the reticulation is provided at the Ormond Road Booster Pump Station to maintain an equilibrium between the two bulk storage reservoirs (Hospital Hill and Knob Hill Reservoir).

All other areas use non-reticulated, private supply systems sourced from roof catchments, ground water bores/springs or surface water and are not Council administered or owned.

Strategic drivers

Sufficient water sources for the Gisborne supply. The combination of regulatory changes, climate change and population growth will result in greater difficulties meeting demand from current core water supply sources. Therefore, more frequent water restrictions are likely, which has implications for industry and our economy.

Changes to the freshwater regulation have impacted on how much water Council can take from current sources to supply Gisborne city. Demand management planning has already resulted in Council extracting more water from the Waipaoa River during high flows in order to conserve dam water and reduce pressure to take river water during low flows. The issue is likely to become more critical after 2026, once Council operates under a new consent for extraction from the Te Arai River and maximum extraction volumes potentially decrease during times of low river flows.

The Sang Dam, which is one of 3 dams in the Mangapoike dam catchment, has slumped and can only be filled to about 50% capacity. At full capacity the Sang Dam equates for about 10% of potential dam storage capacity. In other words, storage capacity of the Mangapoike dams water source is now reduced by 5%.

The loss of storage reduces resilience to cope with dry weather events and increases the likelihood of water restrictions, which have economic impacts. It creates greater reliance on river water sources, for which there are competing uses and values.

Meeting Peak Demand for Water

On days of peak demand the use of water exceeds the flow into the network from water sources. This results in the drawing down of reservoirs.

If high demand continues for several days and reservoir levels continue to drop Council must implement water restrictions to bring demand in line with supply. Restrictions have implications for industry (particularly the processing of primary products) and the economy.

During times when reservoirs drops there is also reduced resilience to cope with a disruption in supply, as reservoirs are intended to provide emergency water storage.

Safety of the Gisborne City Water Supply – Reducing Risks

The following two areas of improvement are expected to feature in Council's Water Safety Plan, which is currently being reviewed:

Reducing the risk of protozoa contamination – The municipal water supply is currently compliant with treatment and monitoring requirements for protozoa. However, if protozoa is detected in 5-yearly raw water samples, additional treatment must be installed. The risk of detection of protozoa is considered reasonable given the landuses and discharges in the water source catchments. Protozoa is considered a greater risk in the Waipaoa River and this source is now being used more often. Protozoa treatment is also considered an area where national regulation will become stricter, requiring additional protection through treatment.

Reducing the risk of contamination from backflow – this can occur if pressure in the network drops and water flows back from the property into the network. Non-residential connections are already fitted with backflow prevention devices, which are considered an effective means of addressing the risk. Only about 50% of residential connections are fitted.

Access to Safe and Affordable Water in Areas Outside the Municipal Water Supply

Council recognises that access to safe and affordable water is critical for all people. The majority of water used in areas outside the Council supply is sourced from roof collection. In general terms the water quality of water sourced from roofs and stored by households is poor, with biological contamination from wind-born organic matter and birds. However many also value the lack of additives in private supplies.

Furthermore, the roof area of many dwellings is often too small to provide a sufficient year-round supply. As trucking top-up water is expensive (over $800 for the communities furthest from the suppliers) we expect inadequate water supplies in many households, particularly during summer.

There are also various private community water supplies in the region that service multiple properties. These are often run by volunteers and present a risk of less stringent design and maintenance programmes.

Water for Irrigation in the Poverty Bay Flats

Climate change, the declining aquifers and the changing regulatory environment could potentially increase demand for a Council to introduce an irrigation scheme for agriculture. Across the Poverty Bay flats water resources are fully allocated with no capacity for irrigation available.

The Makauri aquifer has been in decline for decades. It provides irrigation for 2,000 ha of land with consent to take water. The Freshwater Plan sets a target to reduce total allocation by 2020 by 75%, with further reductions planned for 2025. An economic study indicates that a reduction in water available for irrigation would result in a substantial loss of return for growers and potentially a loss of employment. The Plan also requires a reduction in allocation in the Matokitoki aquifer and a review of the total allocation from all Poverty Bay aquifers in 2025. Cuts in allocation from the Waipaoa River are also required.

Demand for water for crop irrigation on the Poverty Bay Flats remains strong and is expected to increase. Water availability is and will be a critical limitation to horticultural development.

Over the longer timeframe, sources of irrigation water will generally become more variable and harder to predict with climate change. The most likely projection for levels in the Waipaoa river (the most significant source of irrigation water) is a small decline by 2040 and 2090; but there is much uncertainty with significant declines or even an increase in low flow levels possible. Recharge of groundwater sources from land is also expected to reduce with climate change. Meanwhile, hot days over 25oC and drought are expected to increase, increasing crop water requirements.

TRANSPORT

Activity description

Council's Land Transport team "Gisborne District Council – Journeys" manages the land transport activity.

This includes all operational elements of road maintenance and renewals, capital projects, and walkways and cycleways.

We also manage our road safety education initiatives.

Key activities include:

- road asset maintenance and renewals
- road safety engineering and education
- traffic management
- road asset design and construction
- providing public transport
- providing walkways and cycleways
- providing parking.

NZTA is responsible for the State Highway network. (SH35 through Gisborne City and to the north, and SH2 both south to Napier and west to the Bay of Plenty).

Council is responsible for the local road network, including the extensive rural road network and the urban road network.

As a regional authority, we have a responsibility for regional land transport planning. This is carried out by strategic planning with Journeys.

We also manage Gisborne City's two commuter and nine school bus services

Strategic drivers

Suitability of the Roading Network for Increased Vehicles, especially Heavy Vehicles

The increasing forestry harvests is causing increasing demands on local roads. Around 57 local roads will be used for transporting the harvest. Many are unsealed and classified for low volume traffic. Transporting the harvest along parts of these roads will be difficult due to issues such as pavement surface, drainage issues or difficult alignment for long vehicles. Heavy vehicles also create a high level of wear and tear on unsealed roads and, if not addressed through frequent maintenance, lead to poor surface conditions and pot holes, which exacerbates access difficulties.

Of the 101 bridges along known forestry routes around 70 are incapable of supporting heavier 'High Productivity Motor Vehicles' (HPMVs). Several bridges are even incapable of transporting loads that can usually be carried as-of-right and have specific signposted load restrictions. The lack of provision for heavier permitted vehicles across bridges increases costs for the forestry industry. Alternative routes must be sought for carrying heavy harvest equipment; equipment dismantled into parts; or rivers forded. It also means forestry and other rural freight cannot be transported as efficiently in larger loads. These increased costs also create a risk of non-compliance with load restrictions; which can damage the bridges. Inspection of bridge defects suggests that this may already be occurring.

There has also been significant general traffic growth on some key urban routes. Population growth and the potential for increased economic activity is likely to cause a continuation of these trends. Waiting times at round-abouts at peak times across the city can be expected to grow.

Unforgiving Local Roads

National statistics on road casualties suggest roads classified for low volume traffic generally have a higher level of personal risk than roads classified for higher traffic volumes. Nonetheless, Gisborne's low volume roads scored comparatively higher for personal risk compared to a group of 'peer' authorities and the national average for low volume roads. Narrow seal, lack of passing opportunities and tight alignment is thought to contribute to higher than normal incidents of death, serious injury and loss of control in rural areas.

Road Security and Resilience.

The road network is susceptible to surface flooding, landslides and weather degradation. This leads to road closure, poor road condition, excessive wear and tear on vehicles and resultant economic loss (in 2016 there were 40 road closures due to flooding and landslides). The community has an expectation that the network will be restored at a fast rate when weather related events cause closures.

In the future, the frequency of storm events and damage to the network could potentially increase with climate change.

Coastal roads will also become more vulnerable as the rising sea level drives shoreline retreat and increases the risk of coastal flooding. Coastal roads vulnerable to erosion and flooding in the next 50 years include Makorori Road, the access to Waihau Bay, Kaiaua Beach, the access to Nuhiti Beach from Anaura Bay, Waima, Tokomaru Bay, Beach roads at Waipiro Bay, and the East Cape Road.

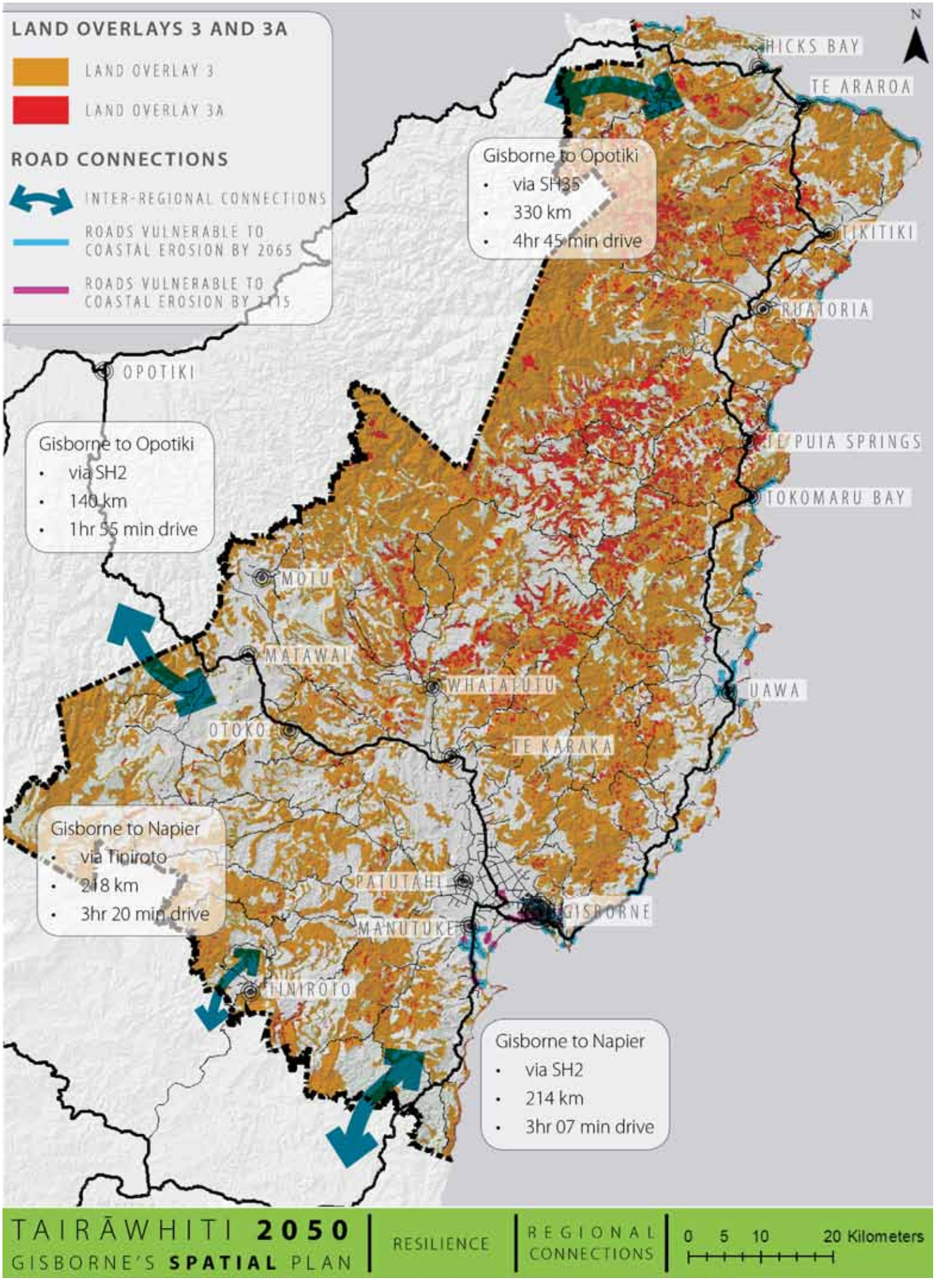
Conflict between Active Modes of Transport and Heavy Vehicles

Conflict between active mode users of transport and heavy vehicles results in increased personal risk to active mode users. The perception of this safety risk on the main roads of Gisborne city is identified as a major barrier to the uptake of cycling. Increasing forestry traffic on routes to the port and processing plants is exacerbating the issue.

Need for Increased Maintenance and Renewal of the Network

Affordability is a major issue for the region, with a large road network and a relatively small population and rating base. We currently do not have enough funding to provide all services at the desired service levels or provide new services. Works and services that cannot be provided under present funding levels are the structural upgrades including strengthening to HPMV of all 70 bridges along forestry routes.

Our present funding levels are insufficient to continue to provide existing services at current levels at bridges in the medium term.


LAND OVERLAYS 3 AND 3A
LAND OVERLAY 3
LAND OVERLAY 3A
ROAD CONNECTIONS
INTER-REGIONAL CONNECTIONS
ROADS VULNERABLE TO COASTAL EROSION BY 2065
ROADS VULNERABLE TO COASTAL EROSION BY 2115
N
HICKS BAY
TE ARAROA
Gisborne to Opotiki
• via SH35
• 330 km
• 4hr 45 min drive
TIKITIKI
RUATORIA
OPOTIKI
Gisborne to Opotiki
• via SH2
• 140 km
• 1hr 55 min drive
TE PUIA SPRINGS
TOKOMARU BAY
MOTU
MATAWAI
WHATATUTU
UAWA
OTOKO
TE KARAKA
Gisborne to Napier
• via Tiniroto
• 218 km
• 3hr 20 min drive
PATUTAHI
GISBORNE
MANUTUKE
TINIROTO
Gisborne to Napier
• via SH2
• 214 km
• 3hr 07 min drive
0 5 10 20 Kilometers

Arts facilities

Activity description

Theatres

The War Memorial Theatre is the premium regional performance and event facility. Significant upgrades ($9.5 million) commenced 2013 and it was re-opened April 2015. It seats 500 people in the main auditorium while the foyer and stage offer a venue for smaller conferences and events. The War Memorial Theatre is council staffed and operated and made available for hire for events and performance with staff support as needed.

The Lawson Field Theatre was built in 1983 and seats 200 people in the main auditorium while the foyer and Roseroom offer a venue for smaller conferences and events. The theatre has been closed since October 2016 due to not meeting earthquake strength requirements. Progress is underway to upgrade with construction aimed to start 2018. The theatre is council staffed and operated and made available for hire for events and performance with staff support as needed.

The Soundshell is a covered stage with dressing rooms in an open air setting which is referred to as the Outdoor Theatre. The grounds and buildings are currently maintained by the main contractor for parks and managed similar to a sportsground.

Tairawhiti Museum

The museum comprises one large building surrounded by several smaller historic buildings which are council owned and leased to the trust which operates inside these separately. Proximity with surrounding leased buildings support cultural community partnerships

Council provides facilities, services and projects to create a sense of pride and local distinctiveness, and to reflect cultural diversity in our district. We own and maintain the Museum buildings but contract services to the Tairāwhiti Museum Trust.

HB Williams Memorial Library

Council operates the HB Williams Memorial Library, serving Gisborne's urban and rural communities and visitors. The library provides access to space and resources including professional staff, a relevant collection of materials including local histories, free internet, specialised programmes to inspire learning and civic participation and digital services.

Public art

Public art is promoted and commissioned in partnerships with the community.

Council owns and operates around 48 pieces of Art In Public Places. These mainly include Murals and Sculptures. The art here generally occurs inside Art Facilities and outdoors in Parks and Open Spaces in places in non-commercial places where the public can easily see it.

For the purposes of this AMP monuments and memorials are excluded.

Community halls

Only one community hall is managed by council. The rest are leased. Patutahi Hall was built in1975 with extensions in 1979. The hall has the ability to house indoor sport (badminton) with facilities to cater for small groups. The Patutahi Reserve Board is a sub-committee of Council which have cared for the hall and other facilities of the Patutahi Township for many years.

Tairāwhiti Navigations

Tairāwhiti Navigations is a programme of five projects delivered together to ensure the full benefits - economic, tourism, placemaking and community well-being - are realised through well connected and integrated design, landscaping and stories.

The programme includes the following projects:

1. Historical Interpretations,
2. Inner Harbour redevelopment,
3. Cook Landing Site,
4. Titirangi Summit (concept), and
5. Titirangi Restoration (delivery).

Each project involves a range of stakeholders to deliver the work, ensuring a sense of community ownership once completed.

The project area encompasses Titirangi maunga, Gisborne's inner harbour area and Turanganui Riverside walkway to Oneroa. All projects will be completed by May 2019. The key features will include place-based storytelling as told by local iwi through a series of interpretation media. Site upgrades, landscaping, new light infrastructure and amenities will enhance sites of significance as well as local business, recreation and hospitality hubs.

Strategic drivers

Arts facilities

Arts facilities are ageing and require upgrades at the same time. It is unlikely there will be sufficient funding to upgrade all the facilities that require upgrades in the next 20+ years. Theatres at all levels across the region require upgrades to continue operating. Reynolds Hall (Tolaga Bay) requires a structural and interior upgrade, which is part underway. Gaiety Theatre, Te Araroa and the Manutuke Theatre are in very poor condition and largely unuseable. The Gisborne Soundshell theatre stage and backstage are in below average condition and in need of upgrade to be used as a performance and theatre space.

There are opportunities to develop further the hobby museums (ECMOT and Aviation) to create a higher standard of facility and both trusts have expressed an interest in doing this

A challenge for public library services is to consider options to enable access to non-library users; those who live considerable distances from the city and to re-engage teenagers. Improved delivery of digital content and other initiatives will address some of these challenges. Gisborne's library is a community and local history library that is a one-stop shop for residents. However, very expensive or specialist materials are not purchased so may not meet some customer expectations for content and facilities.

Public art

Our key challenges continue to be ensuring that public art reflects who we are in Tairawhiti, working together to fund and participate in public art, and making good decisions about what and how to manage public art.

Murals by celebrated artist Graeme Mudge painted on Council facilities are at risk of deterioration. We need a plan for managing these features into the future.

Tairāwhiti Navigations

There is an opportunity to widen the Navigations theme to include the whole region. This includes:

- Showcasing our region's rich history and culture through the unique stories as told by our Māori ancestors.
- Leverage significant value in linking together key community infrastructures
- Enhanced amenity, sense of place, identity and regional pride.
- Increased tourism opportunities and employment generation.

Our challenges in expanding the scope of the programme continue to be:

- Balancing expectations amongst multiple and often conflicting stakeholders.
- Working with multiple partners to deliver a cohesive and coordinated programme.
- Relying on external funding to successfully deliver the full programme.

Aquatic Facilities

Activity description

The Olympic Pool complex is an important recreational and sporting facility with about 122,000 visits a year. It provides a wide range of activities and programmes and is available for groups such as schools, sporting clubs and community organisations.

The complex includes 7 lane 50m pool (heated and covered with canopy structure), 33m recreation pool, 98m hydroslide, therapy pool, diving pool, toddler pool, offices, changing rooms and kiosk. The complex is Council owned and operated.

Strategic drivers

Swimming is the third most popular recreation activity for Tairawhiti people, in terms of participation. This is consistent with national participation preferences. Sport NZ national benchmarks suggest a likely demand for three public pools in Tairawhiti (1:15,000 people) based on population. While there are 46 pools in Tairawhiti, many are small school pools without heating and cover, only available in the summer at the discretion of the school. Compliance and health and safety concerns (mainly around lifeguarding) often rule out public provision.

The Olympic Pool Complex (OPC) is the only public facility available year-round for a wide range of needs from lane swimming to water play to aquatic classes and training. Visits to the OPC have declined significantly in the past 5 years from over 150,000 visits per year to around 120,000 (with a particular decline noted in winter months). Some of this can be attributed to dissatisfaction with the current facility – not covered so cold in winter, poor access to changing rooms, lack of disability access and lack of water play space. The facility is beyond its projected life and maintenance costs are starting to rise exponentially and there are major structural issues alongside the amenity issues.

Cemeteries

Activity description

Council maintains 13 gazetted public cemeteries in the district occupying 51 ha. The closed cemetery at Makaraka is fully maintained as a historic cemetery site. Cemeteries at Taruheru, Patutahi, Tokomaru Bay and Tolaga Bay are fully maintained to a park-like standard. Cemeteries at Te Araroa (two), Ruatoria, Te Puia, Rakauroa, Ormond and Motu are maintained less frequently and fees are set accordingly.

Council provides a crematorium building at the Taruheru Cemetery. The cremator and service is managed by a funeral director who leases the building.

A typical cemetery is comprised of a few hectares of land with a small section fenced off for plots while the remaining field is licenced to graze.

Strategic drivers

As our communities develop and change, there are opportunities to:

- provide cemetery services that are more affordable and financially sustainable.
- respond to changing community preferences (including providing for more diverse funeral preferences, self-organised funerals and natural burials)
- improve cemetery design and amenity
- ensure disaster planning is in place to dea
- extending cemetery services into heritage and geneology

Parks And Open Spaces

Activity description

Parks and Open Spaces

Gisborne has a high rate of parks per capita. Council administers a total reserve area of about 960 hectares. Reserves for recreation comprise 384 hectares, neighbourhood reserves cover 25ha, heritage reserves 120ha, cemeteries 54ha and amenity reserves 377ha.

About two thirds of the parks and community property assets are located within urban Gisborne, with the balance spread throughout the district, roughly in proportion to population distribution.

Outdoor sports areas

Tairawhiti has 35 outdoor sports areas, made up of:

- sports fields
- artificial sports turf, and
- specialist areas such as BMX Park, Eastland Group Raceway, mountain bike trails, bowls and croquet greens.

Strategic drivers

Severe weather events (such as droughts, storms or floods), vegetation fires and pests always have the potential to affect our open spaces, parks and reserves network. This includes climate change, particularly in respect to water availability for sports grounds and amenity gardens.

The threat of Myrtle Rust to Council's specimen pohutukawa is also a high risk, and is likely to result in the loss of public amenity during the life of the LTP.

There is a need to ensure that the development and maintenance of our parks and open space assets reflect community needs, changing demographics and affordability.

Play Spaces

Activity description

Tairawhiti-Gisborne has 44 playgrounds in the Council's ownership. There are 14 rural and 30 city playgrounds. Of the 44 playgrounds, there are:

- 4 Adventure/Destination playgrounds
- 9 playgrounds that also include skateparks and/or basketball halfcourts
- 5 skateparks (some with halfcourts) that have no playground equipment
- 26 conventional playgrounds with play modules and proprietary play equipment.

Strategic drivers

The following issues and opportunities for play spaces have been identified through our Community Facilities Strategy:

- Distribution and hierarchy. We don't have a planned network of play spaces across the region and there is no guidance for how we should invest in play spaces. Our major destination play spaces are concentrated in Gisborne City while the other areas are not serviced to the same level.
- Play for all ages and abilities – inclusivity. Many of the playgrounds in Tairawhiti are not accessible for all abilities. There is a need to cater for disabilities, an increasing young population, as well as teenagers and adults.
- Collaboration and community participation. Many play spaces do not reflect a community character and sense of place. There are opportunities to engage communities in the design and planning of play spaces, to partner with schools and marae in develop play hubs, and to consider a Mana Matauranga framework for designing and developing play spaces.
- Quality design. Generally, our play spaces are not well integrated into their surrounding environment. There could be greater consideration given to wider connections and holistic aesthetic appearance.
- Maintenance and management. A review of the 2016 playground audit for Tairawhiti shows that many play equipment parts, impact attenuation surfaces and edging materials are sub-standard. Ongoing operational and renewal cost is a major consideration for Council.
- Affordability. Because of the high cost of supplying and maintaining play spaces, not all playgrounds in the region are being renewed and maintained to provide an adequate level of service. Sites such as Titirangi and many of the township playgrounds need capital investment to bring them up to standard.

Public Conveniences

Activity description

Council owns and operates around 76 conveniences. Three quarters of these are fully serviced toilets and open to the public with just over half located in the city. The rest are associated with sports grounds and can be opened to support sports or event bookings.

In the CBD we have one attended toilet with showers (Bright St) with a charge. Those fully serviced are regularly cleaned, some up to 5 times a day in peak season, others down to once a week in the low season. The remaining make up part of a changing facilities for sports parks and are open to the public for and maintained around events.

In addition to public toilets GDC also supplies temporary toilets (eg, Anaura Bay), septic storage containers (Summer Camping) over the summer season and 4 permanent dump stations for mobile homes (Freedom Camping).

Strategic drivers

Planning for public conveniences needs to ensure that the most appropriate facilities are in the right place, at the right quality. Public conveniences are a significant investment for Council. They are costly to provide, maintain and renew. With changing user needs, potential environmental impacts at coastal locations and an increase in tourism to the region we need to ensure our conveniences are fit for purpose.

Street Trees And Gardens

Activity description

Council currently maintains around 4000 trees throughout Gisborne's road reserves. There are as many as 130 different species planted, however just 29 species comprise 80% of the total number.

Council manages 37 planted pots and around 150 median and roundabout gardens along Gisborne's main roads and within the CBD. These gardens have a combined area of over 15,000m^2 and include over 75,000 evergreen, perennial and annual shrubs and bulbs planted across both winter and summer periods.

Strategic drivers

Legacy and replacement planting are critical for maintaining and building a resilient urban forest. Managing existing trees so they are safe and do not adversely affect nearby infrastructure continues to be a key issue. Observing good tree selection and best practice tree installation will ensure that our street trees maximise their contribution to our city and townships.

We need to make sure that our street gardens reflect who we are, contribute to a positive experience of Gisborne city and are suited to the environments they grow in.

Solid Waste

Activity description

Solid Waste encompasses Waste Management, Waste Minimisation and Landfill Aftercare. The Solid Waste activity consists of litter collections both private kerbside and public streetscape bins and cleaning of public places, rural transfer station operations and community caretakers, landfill operations and aftercare, education and waste minimisation initiatives. Assets include over 500 rubbish bins, 8 transfer stations, 1 open and 1 closed landfill and the rethink centre (an education operation based in rental accommodation).

Strategic drivers

We need to improve our management of all forms of waste produced in Tairawhiti. Our challenges include:

- Managing waste disposal before and after the closure of the Waiapu landfill in 2025
- Considering how to accommodate wider public interest in expanding the recycling to include wheelie bins and collection of organic waste
- The need to manage the discharge of closed landfill leachate
- Improving service provision through the development of a Council Resource Recovery Centre

ENERGY

Electricity network

Transmission lines have high maintenance costs due to the geography of the region (East Harbour Management Services, 2004)

As of May 2019, Gisborne residents were paying the 5th highest domestic electricity prices in NZ (out of towns and cities) at approx. 34 cents per kWh (Ministry of Business, Innovation, and Employment, 2019)

There is only one main electricity transmission line into the region (East Harbour Management Services, 2004)

In rural Gisborne especially, electricity supply can be unreliable (East Harbour Management Services, 2004)

Renewable energy

Out of OECD countries, NZ has the 4th highest production of renewable energy (Ministry of Business, Innovation, and Employment, 2017a) and in 2016, 85% of the electricity generated was from renewable sources, which was the highest proportion in 35 years (Ministry of Business, Innovation, and Employment, 2017b). The location of Tairawhiti means there are many opportunities for renewable energy: windy coastlines, high sunshine hours, rivers, geothermal…

New Zealand is part of the ring of fire meaning that there is geothermal activity in the North Island. In Tairawhiti, geothermal energy is found at Te Puia Springs and nearby Morere in Hawkes Bay and Kawarau in Bay of Plenty.

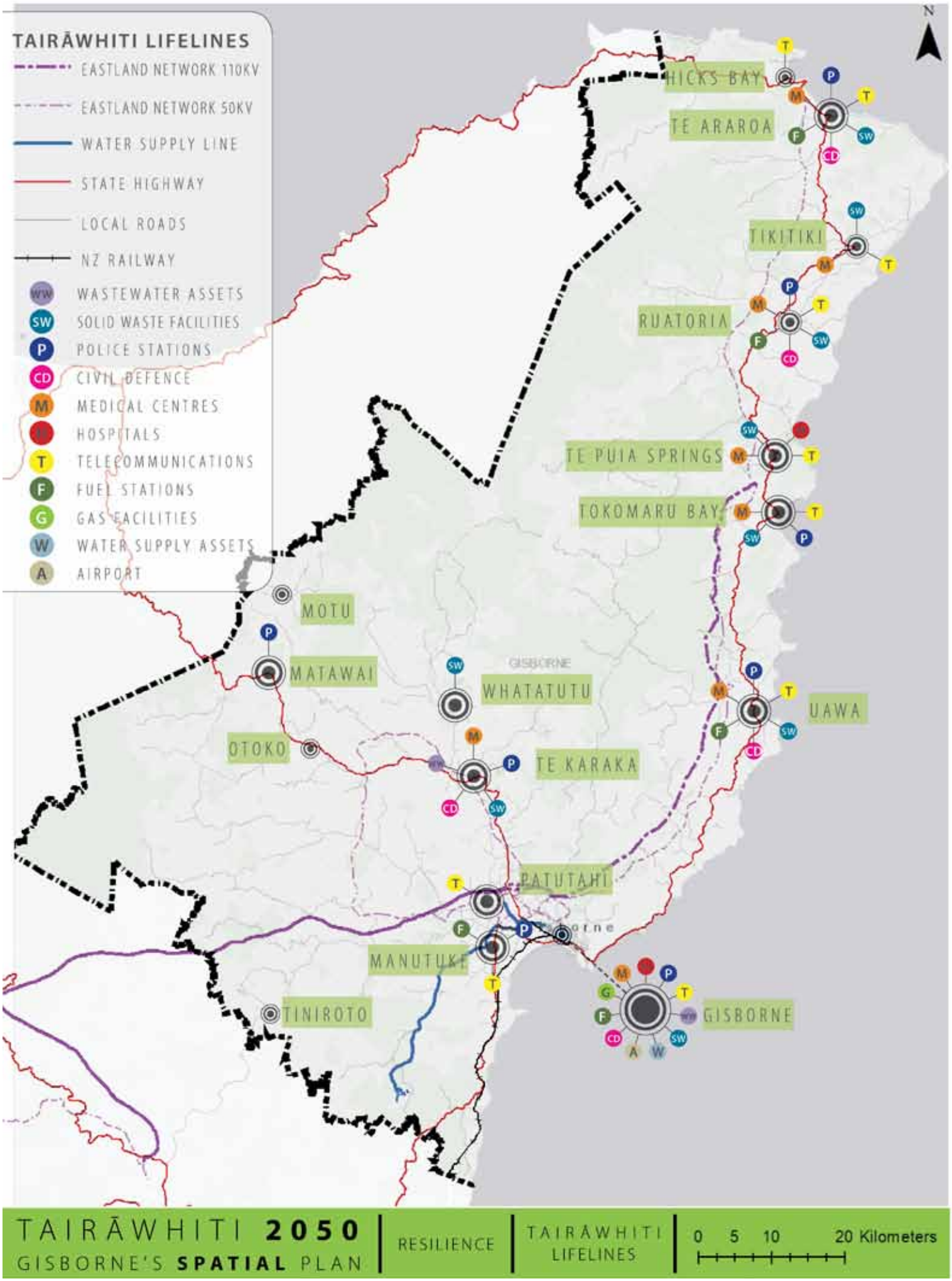
WORK UNDERWAY THAT SUPPORTS RESILIENT INFRASTRUCTURE

Four waters

- Waipaoa Flood Control Scheme upgrade
- Wastewater Treatment Plant Upgrade
- Drainwise project
- Managed Aquifer Recharge

Energy

- Govt.'s Electric Vehicles Programme (contestable fund)
- Process Heat Action Plan (in the pipeline)
- Minimum energy performance standards (MEPS)
- Mandatory energy labelling (MEPL)
- Electricity Price Review
- Banning oil and gas exploration (East Harbour Management Services, 2004)
- Energy Efficiency and Conservation Authority (EECA) and Energywise


TAIRĀWHITI LIFELINES
EASTLAND NETWORK 110KV
EASTLAND NETWORK 50KV
WATER SUPPLY LINE
STATE HIGHWAY
LOCAL ROADS
NZ RAILWAY
WASTEWATER ASSETS
SOLID WASTE FACILITIES
POLICE STATIONS
CIVIL DEFENCE
MEDICAL CENTRES
HOSPITALS
TELECOMMUNICATIONS
FUEL STATIONS
GAS FACILITIES
WATER SUPPLY ASSETS
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TE PUIA SPRINGS
TOKOMARU BAY
MOTU
MATAWAI
WHATATUTU
UAWA
OTOKO
TE KARAKA
PATUTAHI
MANUTUKE
TINIROTO
GISBORNE
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
RESILIENCE
TAIRĀWHITI LIFELINES
0 5 10 20 Kilometers

The policy framework guiding resilient infrastructure can be divided into international, national and regional aspects.

International Policy Direction

New Zealand has made climate change commitments under the United Nations Framework Convention on Climate Change, the Paris Agreement and the Kyoto Protocol.

The combined effect of these agreements at a National level is a commitment to reduce New Zealand's greenhouse gas emissions:

- to between 10 per cent and 20 per cent below our 1990 levels by 2020
- to 30 per cent below 2005 levels by 2030
- to 50 per cent below 1990 levels by 2050.

Meeting these commitments requires a significant reduction in emissions nationally as well as significant use of carbon sinks (such as forests which absorb CO2).

National Policy Direction

The key pieces of legislation relating to the management of infrastructure in New Zealand are the:

Local Government Act 2002 (LGA)

The LGA provides for local authorities to play a broad role in meeting the needs of their communities for efficient, effective and appropriate local infrastructure (Section 10).

Also, the LGA requires local authorities to prepare and adopt an infrastructure strategy for a period of at least 30 years, as part of its long term plan (Section 101B).

Resource Management Act (1991) RMA

The RMA is New Zealand's main piece of legislation that sets out how we should manage our environment. As well as managing air, soil, fresh water and coastal marine areas, the RMA regulates land use and the provision of infrastructure which are integral components of New Zealand's planning system.

Infrastructure is defined by the RMA and includes energy pipelines, telecommunications, facilities for the generation of electricity, water supply, sewerage systems and transportation structures.

Among the many functions required of region councils under Section 30 is the strategic integration of infrastructure with land use through objectives, policies, and methods.

Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

These regulations aim to establish a water management system across the country in which water is effectively allocated and efficiently used. This is achieved through consistent measuring and reporting of water taken at national, regional and catchment levels. The regulations will also:

- enable water users and regulators to easily determine compliance with water take consents
- provide accurate information about actual (consented) water taken in any catchment (including the catchments of groundwater resources)
- improve allocative efficiency through accurate measurement of water abstracted for consumptive uses
- ensure the comprehensive uptake of water measuring in a cost effective and timely way.

Health Act 1956

The Health Act aims to protect public health by improving the quality of drinking-water provided to communities. The Act does the following:

- Requires drinking-water suppliers to take all practicable steps to ensure they provide an adequate supply of drinking-water that complies with the New Zealand Drinking-Water Standards;
- Requires drinking-water suppliers to develop and implement water safety plans;
- Ensures drinking-water suppliers take reasonable steps to contribute to the protection from contamination of sources from which they obtain drinking-water;
- Requires officers appointed by the Director-General of Health to act as drinking-water assessors to determine compliance with the Act and the drinking-water standards
- Requires record keeping and publication of information about compliance;
- Provides for the declaration and management of a drinking-water emergency;
- Provides for penalties for non-compliance (Ministry of Health, n.d.).

National Policy Statement on Freshwater Management

The National Policy Statement for Freshwater Management (Freshwater NPS) provides direction on how local authorities should carry out their responsibilities under the Resource Management Act 1991 for managing fresh water (Ministry for the Environment, n.d.).

National Policy Statement for Renewable Electricity Generation 2011 (NPS REG)

The NPS recognises the importance of renewable energy and will help New Zealand achieve the Government's target of 90 per cent of electricity from renewable sources by 2025.

This NPS REG will drive a consistent approach to planning for renewable electricity generation in New Zealand. It gives clear government direction on the benefits of renewable electricity generation and requires all councils to make provision for it in their plans (Ministry for the environment, n.d.).

The National Policy Statement on Electricity Transmission 2008 (NPS ET)

The NPS ET provides guidance for local authorities on how to recognise the national significance of our national grid in Resource Management Act 1991 (RMA) planning documents and local decision-making (Ministry for the Environment, n.d.).

The National Environmental Standards for Electricity Transmission Activities (NES)

The NES are regulations made under the Resource Management Act 1991. The purpose of the NES is to:

- minimise the cost to councils of implementing the National Policy Statement on Electricity Transmission (NPS)
- ensure planning requirements are nationally consistent and provide adequately for maintenance and upgrading of transmission lines to achieve the intention of the NPS
- minimise RMA processing costs and delays (Ministry for the Environment, n.d.).

The NZ Energy Strategy 2011-2021

The NZ Energy Strategy sets the strategic direction for the energy sector and the role energy will play in the New Zealand economy. It is in New Zealand's interest to use its portfolio of energy resources to maximise economic opportunities in a way that is environmentally-responsible. The strategy focuses on four priorities to achieve: diverse resource development; environmental responsibility; efficient use of energy; and promoting energy security and affordability. None of these priorities is more important than the other (Ministry of Economic Development, 2011).

The NZ Energy Efficiency and Conservation Strategy 2017-2022

The NZ Energy Efficiency and Conservation Strategy establishes a national goal to have an energy productive and low emissions economy. Cost effective opportunities lie with renewable and efficient use of process heat, efficient and low emissions transport and innovative and efficient use of electricity. The strategy sets target to decrease industrial emissions intensity of at least 1% p.a. on average between 2017 and 2022; for EVs make up 2% of the vehicle fleet by the end of 2021; and for 90% of electricity to be generated from renewable sources by 2025 (Ministry of Business, Innovation, and Employment, 2017b).

Energy Efficiency and Conservation Act 2000

The Act provides the legal basis for promoting energy efficiency, energy conservation, and renewable energy in New Zealand (Parliamentary Counsel Office, n.d.).

The New Zealand Emissions Trading Scheme (ETS)

The New Zealand Emissions Trading Scheme (NZ ETS) is the Government's main tool for meeting domestic and international climate change targets. The scheme aims to encourage people to reduce greenhouse gas emissions. It creates a financial incentive for businesses to reduce their emissions and landowners to plant forests that absorb carbon dioxide as the trees grow (Ministry for the Environment, n.d.).

Regional Policy Direction

Tairawhiti Resource Management Plan

The principal policy tool for managing infrastructure across our region is the Tairawhiti Resource Management Plan.

Part B represents the Regional Policy Statement. Regional policy statements enable regional councils to provide broad direction and a framework for resource management within their regions as regional and district plans must give effect to them. Section B3 relates to the Built Environment, Energy and Infrastructure.

Part C of the TRMP includes region-wide provisions for the Built Environment, Energy and Infrastructure. Objectives focus on the efficient use of energy and resources and the efficient and effective provision of network utility operations.

2018-2028 Long Term Plan

Council's 2018-2028 Long Term Plan (LTP) is an important tool for managing Council's infrastructure assets including land transport and water activities.

The LTP focuses on getting back to basics by:

- focusing on building, renewing and maintaining critical infrastructure by increasing our borrowing to a sensible level
- delivering on work programmes that address what the community identifies as priorities – roading, water, wastewater, stormwater and flood control, environmental regulation, and important community facilities, and
- finding additional sources of income, enabling us to keep rates affordable through grants and dividends, partnerships and some increases to user pays systems.

Council's strategic priorities for infrastructure are:

- Intelligent Infrastructure - Invest in the existing and future core infrastructure needs, with a focus on cost efficient and effective designs.
- Intelligent Investment - Make sensible, long-term decisions on investments and borrowing, and always seek the best value for community money.
- Tairāwhiti Wai - Improve the wellbeing of our waterways and coastal environments including protection of healthy soils.

CONSULTATION

What have our communities told us in the past?

- Rural communities want infrastructure around renewable energy such as the ability to harness geothermal and biofuel energy.
- Water quantity, quality and availability (related to hydro)
- Having access to integrated and efficient core infrastructure

What have iwi told us in the past?

- Currently working with Council to explore what rights to water may look like

Gisborne District Council – staff feedback

- Planning and resourcing challenge
- Asset mgmt. , ageing assets, security, fit for purpose
- Community expectations

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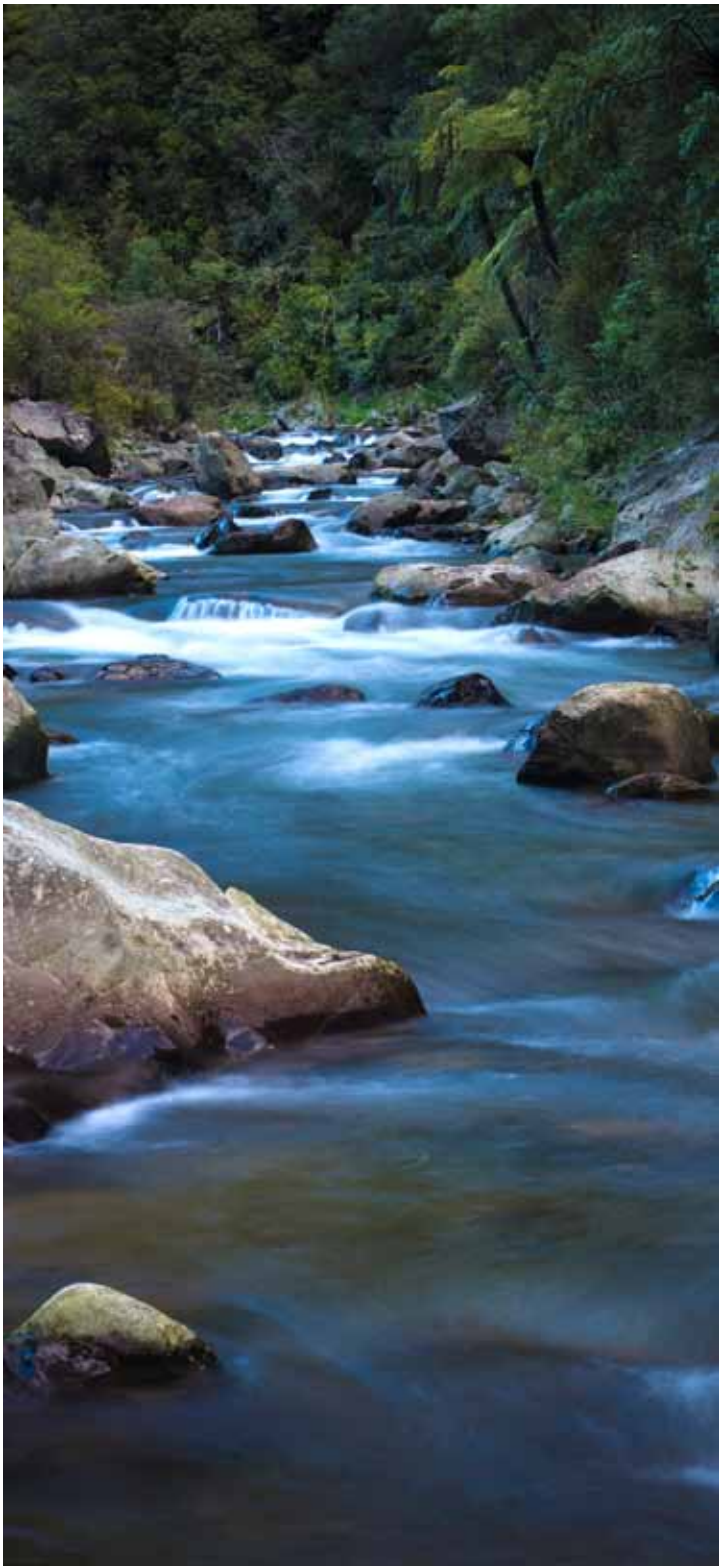
PROTECTING WHAT WE VALUE - NATURAL HERITAGE

IMPORTANCE OF THIS TOPIC

The natural landscape and natural character values of the Gisborne region are not well articulated. Some areas of values are mapped in this Tairāwhiti Resource Management Plan; however, this relies on dated studies, which do not reflect more recent developments in the field of landscape architecture. A good overview of current practice (in terms of application under the RMA) is provided in a recent Environment Court decision (Western Bay of Plenty District Council vs Bay of Plenty Regional Council, 2017).



Natural heritage values provide a variety of services that support Tairāwhiti's economic, social and cultural resilience. These include:

- Resources – energy, food, fuel
- Protection - erosion and flood control, filtering water, carbon storage
- Soil health – biodiversity is a major factor in soil formation.
- Crop pollination and Biosecurity
- Resilience – Diversity of species makes us more resilience against plant and animal diseases e.g. Myrtle rust, source of medicines and rongoa
- Intrinsic biodiversity value
- Cultural identity - whakapapa linkages are fundamental markers of identity, mātauranga maori
- Community health and wellbeing – multiple studies have shown that natural environments, improve mental health and wellbeing and provide inspiration for artists/creative and innovation in science, technology, engineering and business,
- Recreation –cycling, mountain-biking, surfing, hunting, fishing and walking are all important recreational activities in Tairāwhiti supported by natural heritage values (Department of Conservation, 2018)
- Tourism – New Zealand's primary source of GDP. Thirty-five percent of international visitors come to New Zealand primarily to experience our natural landscapes (Department of Conservation, 2016). In Tairāwhiti, the top activities in the region identified by TripAdvisor include Rere rockslide, Cooks Cove, Titirangi, Tatapouri Ecotours and Eastwood Hill Arboretum (TripAdvisor, 2018).

List adapted from (Roberts, et al., 2015).

The OECD Environmental Performance Reviews provide independent assessments of countries' progress towards their environmental policy objectives. The 2017 review recommended identification of conservation priorities and development of a long-term strategy for biodiversity protection and sustainable use as a priority for New Zealand (OECD, 2017).

Context

The Gisborne region (land) covers just over 3% of New Zealand. The region contains 914 (38%) of the 2,400 native vascular plants in New Zealand – a high proportion because of the diverse landscape of lowland flats, coast, dunes and the higher altitude Raukumara ranges (2016 SOE report). Fourteen percent of these native plants are nationally threatened, and 26 plants are regionally threatened.

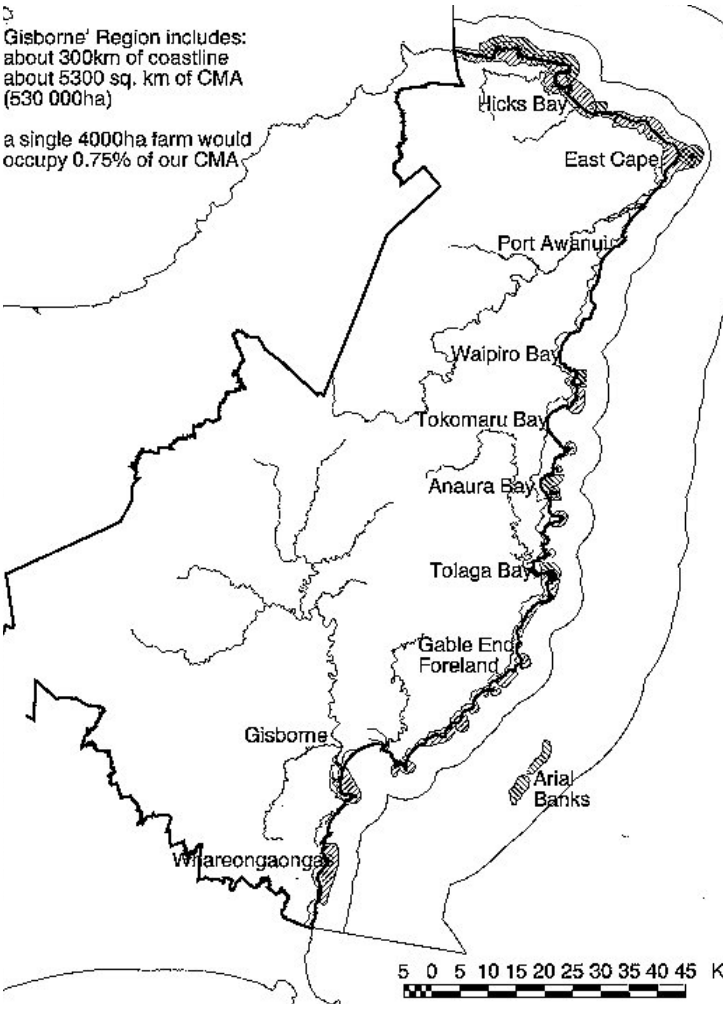
The district is renowned for soil erosion susceptibility due to historical clearing of indigenous forest from the soft rock hills for pastoral farming. Livestock on pastureland are known to graze on indigenous species, reducing plant viability and worsening erosion (Smale et al., 2008).

The main rivers entering Turanganui-a-Kiwa (Poverty bay) are the Waipaoa River, draining a catchment of approximately 216,000 ha and the Waimata River with a catchment of 37,000 ha. The largest catchment is the Waiapu (173,000 ha), which includes the Mata, Waitahia and Tapuaeroa rivers. They suffer from high sediment loads caused by erosion and discharge fine-grained suspended materials and contaminants into the coastal receiving environment, negatively affecting marine life such as cockles and pipi (Gillespie, 2007).

The East Cape provides habitat for subtropical and tropical species, which migrate seasonally to New Zealand or are transported as larvae. South of the East Cape the waters become cooler and the abundance of subtropical species decreases towards the south of the region (Department of Conservation, 2018). Habitat types include (among others) high-value estuarine wetland systems, marine terraces with extensive intertidal and subtidal reefs, a large open water hard rock reef system, some rare species assemblages and extensive soft sediment habitats (Gillespie, 2007). The coastal waters out to 12 nautical miles from Lottin Point to Waikori Bluff, and including Ranfurly Banks, constitute important year-round habitats for most resident and several migrant marine mammal populations. Species known to be resident in the region include common dolphins, New Zealand fur seals, orca (killer whales) and bottlenose dolphins. The Southern right, humpbacks, minke and sperm whales appear to use East Cape as an important migration landmark on their northern and/or southern migrations.

The region is the northernmost range of species like dusky dolphins and leopard seals, which tend to migrate from southern regions to warmer waters over the colder winter months. There four fur seal haul-out sites along the rocky shores of Tairāwhiti. At least two species are highly likely to use the region as one of their main breeding and/or nursery grounds. These are southern right whales and pygmy sperm whales (Clement, 2010).

There are a number of diving spots in Tairāwhiti and areas of significant cultural value such as fishing such as spots for fishing for kahawai.



Catchments at risk

Poor water quality in rivers and streams such as the Waiapu and Waipaoa negatively affects the aquatic life in them (Gisborne District Council, 2016).

GDC has recently identified the following catchments at risk of degradation of water quality and/or aquatic ecosystem health:

- Upper Motu catchment
- Waimata River
- Uawa catchment
- Waiapu catchment
- Te Arai River
- Taruheru River.

Government is assessing whether further regulation can help prevent degradation and whether Government investment (such as the One Billion Trees Programme) can be targeted to reverse current trends. A report to government is due at the end of 2018 (Ministry for the Environment and Ministry for Primary Industries, 2018).

Current state – biodiversity and ecosystems

There has been a significant biodiversity loss in the region since human colonisation. This includes the loss of 85% of original forest and 98% of our wetlands (Gisborne District Council, 2016) compared to about 90% nationally (Landcare Research, 2017).

Aquatic Ecosystem health

Gisborne District Council started monitoring stream ecological health in 2015. Three years is too short a period to detect trends, but ecological state across the region has been assessed (Gisborne District Council , 2018).

Stream habitat assessment showed a range from very high to very poor values. The best habitat values were found in streams flowing through native bush and mature pine forests.

The poorest habitat values were found in streams on the Poverty Bay Flats or at the bottom of catchments closer to the coast. These sites are located in a mixture of pasture, urban and cropping land uses and had a mixture of hard and soft bottom classification.

Marine fish

A wide variety of marine fish species occur in the region. Species of economic and recreational importance include terakihi, red gurnard, kahawai and Blue Moki, species abundant in estuarine areas, such as yellow mullet, and rocky reef areas, such as blue maomao and spotty. The only known Blue Moki spawning site is off the East Cape. There is also an important Tarakihi spawning area between Lottin Point and Hicks Bay (Parsons, 2010).

Indigenous vegetation

Gisborne District has approximately 32.5% of its land area still under any type of indigenous cover, as determined by the LCDB 4.1. This is below the national average of 47%.

Of the current indigenous vegetation in the district, 37.5% has some formal protection and 62.5% is not protected (Table 2). Protected indigenous vegetation covers 12% of the District – below the national average of 30% (Robbie Price, 2017).

Remaining indigenous vegetation is strongly biased toward higher altitudes (Robbie Price, 2017) - only 25ha of intact original forest remain on the Gisborne plains.

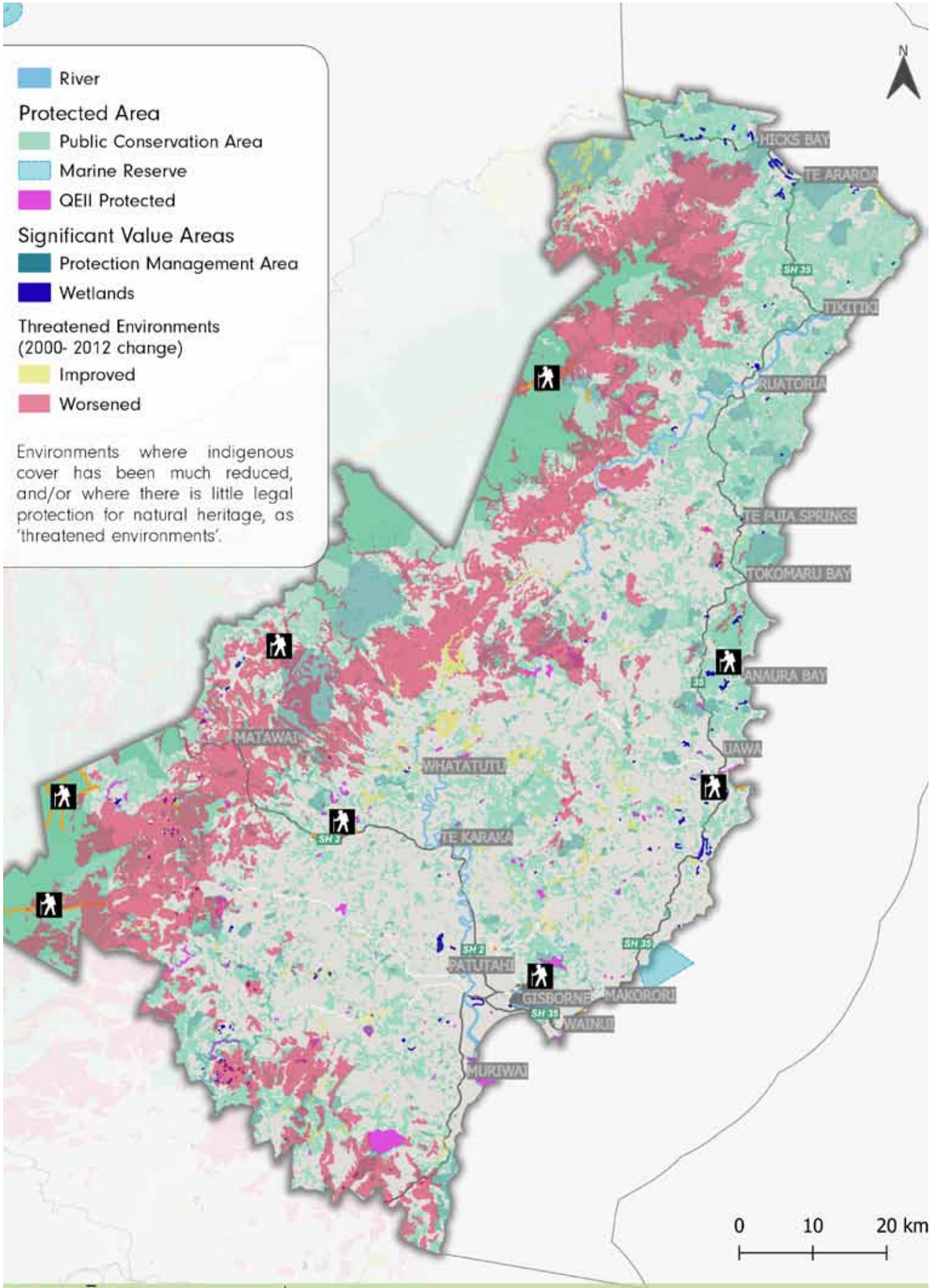
Over half of the native bird species in the region are nationally threatened, the majority of these are coastal or wading birds.

Protected Management Areas (PMAs)

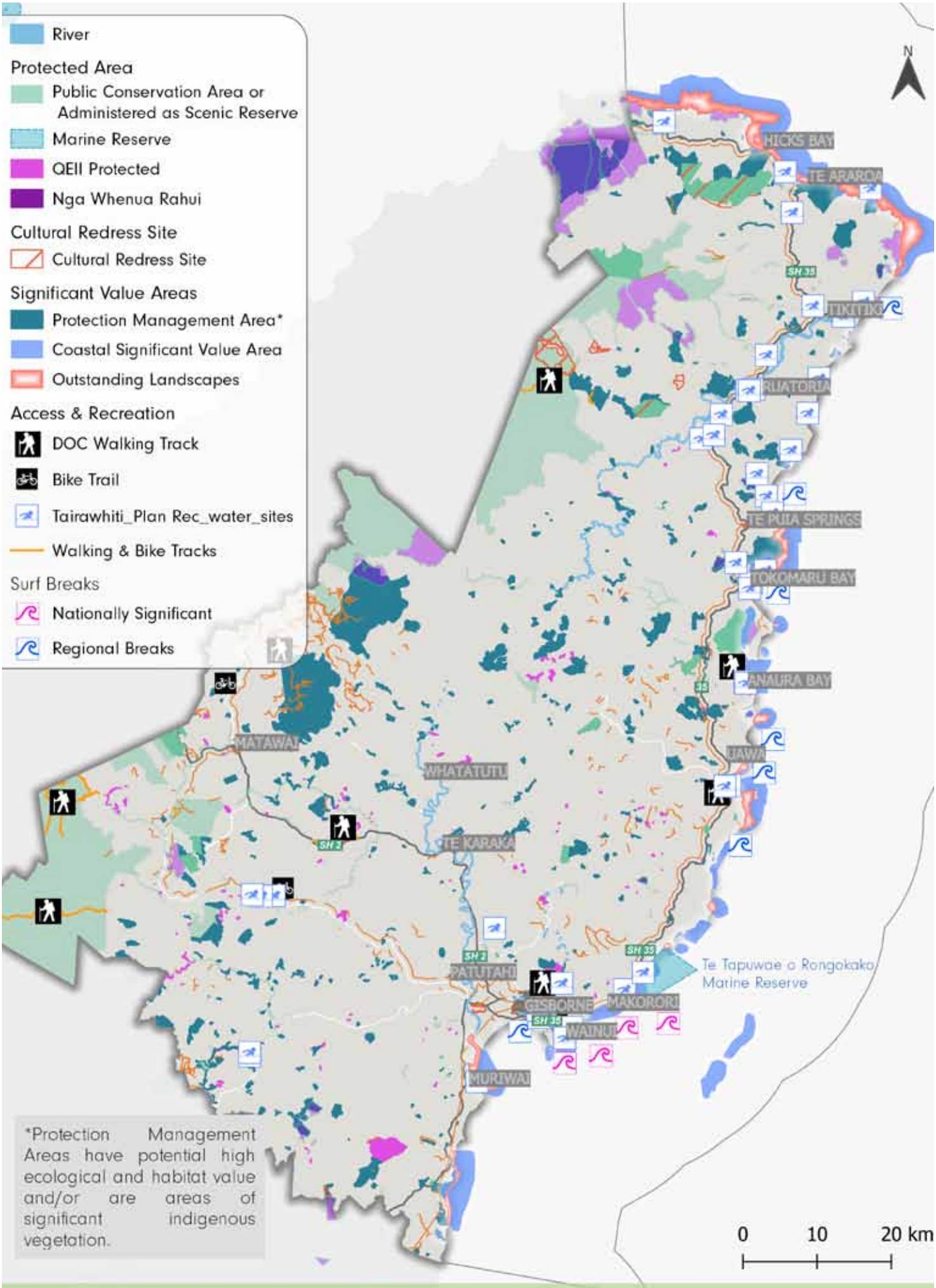
Generally, Protected Management Areas in forestry areas, and where stock have been excluded in farmland are in relatively good condition (Gisborne District Council, 2018) but we are still consenting the removal of native vegetation (approx. 2,500ha in the five years to 2015) including PMAs (approx. 165ha).

Other findings from the 2017 PMA field assessment were:

- Stock access is the greatest threat to unfenced PMAs on farmland.
- Recovery from direct damage to the trees and the invasion of key weeds – pampas and wilding pines - are the main threat to PMAs in forestry (post-harvest).
- Goat control in forestry has a positive effect on PMAs, and supports regeneration of natives.
- PMAs close to urban areas are affected by invasive weeds, such as Japanese honeysuckle.
- The most threatened ecosystem in the region is wetlands - only 1.75% (1,487.23ha) of their original extent remain. Our state of knowledge of wetlands is poor. Only 9 are protected by covenant.

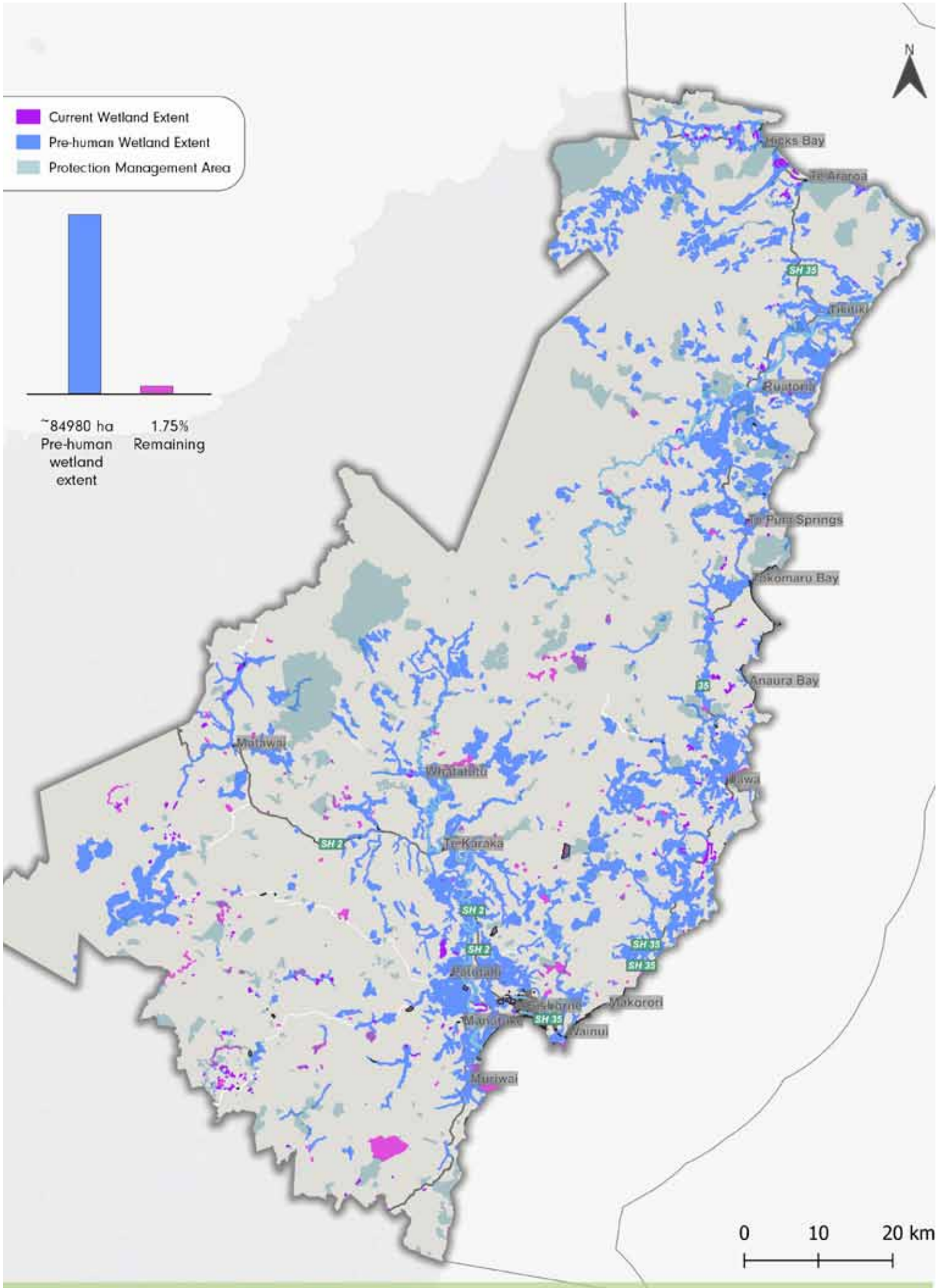


TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN | Natural Heritage: Change in Threatened Environments



TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN

Natural Heritage: Protected & Significant Areas



TAIRĀWHITI 2050
GISBORNE'S **SPATIAL** PLAN

Wetlands: Pre-human and Current Extents

Values protected under the RMA (via the Tairāwhiti Resource Management Plan) or by other statutory mechanisms

Legislative tool	What	Where	Commitment
Resource Management Act	Protection Management Areas identified in TRMP. 315 sites identified as important for native vegetation protection (totals 58,000 ha) Represents 7% of Gisborne's land area	Region-wide North of Ruatoria a reasonable proportion of the PMAs are large (>100 hectares), many surrounded by areas of kanuka buffer these areas from edge effects. QEII covenants are rare. Ruatoria- Tolaga Bay and inland: PMAs tend to be surrounded by forestry. There is a higher frequency of QEII covenants in this part of the district, but these tend to cover smaller PMAs or only parts of PMAs. Tolaga Bay – Gisborne and Inland to Matawai central part of the district - PMAs are generally small and scattered amongst pasture. Only a small number are covenanted. Southern part of the district - some larger PMAs close to the Hawkes Bay boundary and clustered around the Hangaroa River. PMAs are mixed – some connected, some surrounded by kanuka and some within forestry blocks. Few have legal protection, although there are a few kawenata.	Protection via consenting processes. Some overlap with covenants (0.1% of PMA area). Recent survey of 15% of sites identified relatively good condition, but room for improvement.
Resource Management Act	Areas of Significant Conservation Value identified in the TRMP.		Protection via consenting process.
Kawenata	Nga Whenua Rahui is a contestable fund for the protection of indigenous ecosystems on Maori land. It covers the protection of all indigenous natural areas. Nga Whenua Rahui Committee makes decisions on Kawenata and conditions.	North of Ruatoria a number of very large (several hundred hectares each) kawenata are in place.	Reviewed every 25 years
Open Space Covenant registered on land title	QEII covenants (2017 data) Represent 0.5% of Gisborne's land area	148 in the region 4,576 ha total Largest covenant is Waingake (1,104 ha)	In perpetuity
Marine Reserves Act	Te Tapuwae o Rongokako marine reserve	Between Waiomoko River mouth and the Pouawa River mouth. Extends about 5km offshore. 2,450 hectares	Reserve status
Reserves Act	GDC and DoC administered reserve land	Limited DoC reserve land in Tairāwhiti	Reserve status – level of protection depends on reserve status.
Conservation Act	DoC administer wildlife sanctuaries and other conservation land		Protection depends on status

Other initiatives underway to protect natural heritage values

Who	What	Where	Comment
TROPNui and DoC	Priority Ecosystem Units	Onepoto Bay Pukemaru Waimaturu Anarua-Hikuwai Gray's Bush	Draft CMS – not confirmed.
Community restoration projects	Community led restoration projects (many supported by GDC)	Waingake* Longbush/ Waikereru Ecosanctuary Titirangi (Kaiti hill)* Te Wherowhero Lagoon Young Nicks Head/Te Kuri a Paoa	* Public access or potential for access
GDC	Community Facilities Strategy: Parks and Open Spaces Plan 2017	CFS Action 5: Develop destination parks: Waihirere Domain (ecological park) by 2028	
Predator Free 2050	Government initiative currently promoted by the Predator Free NZ Charitable Trust (which supports community volunteers and conservation groups). The goal is a predator free New Zealand by 2050.	Currently 11 sites in Tairāwhiti (some overlap with restoration projects).	Most sites are relatively small – largest is Young Nicks Head.
Development of Tairāwhiti Manuka honey sector	Several TEAP actions (actions 3.1-3.8)	East coast (Ngāti Porou rohe)	Extensive mānuka scrub and shrublands also provide valuable ecosystem services in carbon sequestration and erosion control.

Current state - Pests

Introduced pests have led to the slow, and often less visible, decline of ecosystems nationally. Possums, goats, pigs and deer strip the canopy of vegetation and destroy the forest understorey. In Tairāwhiti:

- Possum control operations are not sufficiently resourced to meet targets. Monitoring indicates higher levels of trapping and poisoning are needed to successfully bring possum numbers in bush areas down to the densities required.
- Argentine and Darwin's ants are continuing to spread slowly, with new infestations at Wainui and Whangara. A total of 439 new infestations were identified from 2013-2015.
- There are 131 properties infected with Nodding Thistle, one of our most serious agricultural weeds.
- The region remains Rook–free and rabbit numbers are low.

Taken from (Gisborne District Council, 2016).

There is also a significant spartina infestation in the Taruheru River (4Sight Consulting Limited, 2016).

Current state – natural features and landscapes

The landscape character of the coastal environment of the region was assessed in the mid-nineties. There has been no comprehensive assessment of the landscape values of the remainder of the region. The majority of landscapes identified as being of significance are located on the landward margins of the Coastal Environment.

The region contains a number of geologically significant sites. Notable examples being the Tarndale and Mangatu slips (Geological Society of New Zealand, 1996), Mount Hikurangi, Te Puia Hot Pools and the Raukumara uplifted peneplain (Department of Conservation, 2018). Mount Hikurangi is of particular cultural importance to Ngati Porou as it features in their pepeha and is tied closely to their identity. Aside from this, however, the cultural importance of most significant sites is unknown.

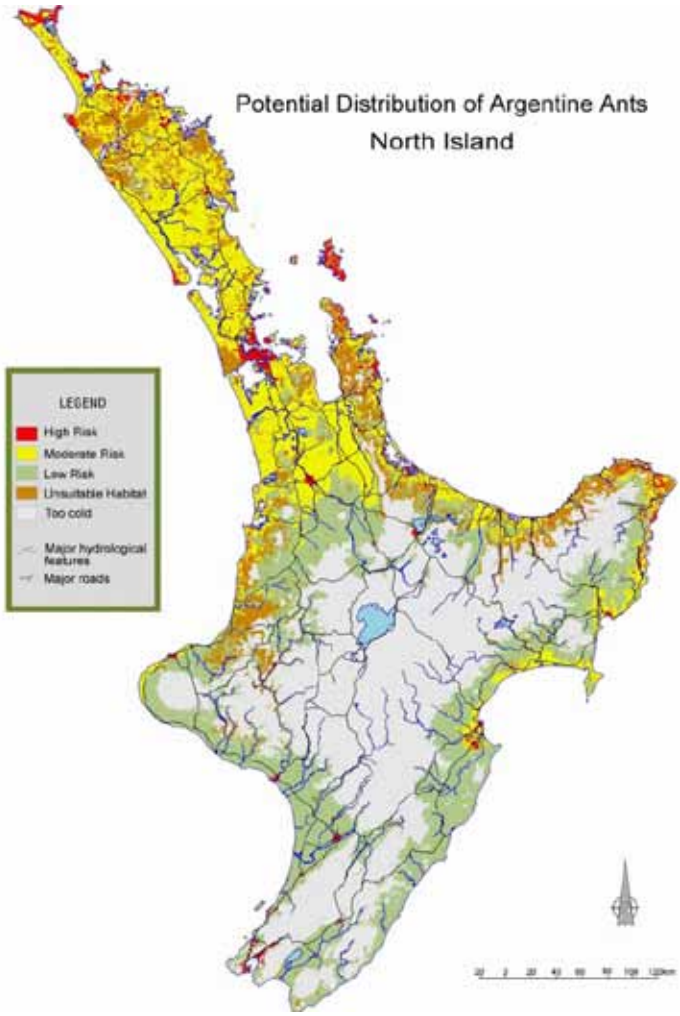
WHAT DON'T WE KNOW?

There is a notable gap in information on soil invertebrates in the Tairawhiti region.

There are significant information gaps around other aspects of Tairāwhiti natural heritage. Notably, the majority of known significant natural features and landscapes is limited to the coastal environment, and there has been no monitoring or assessment of natural features and landscapes since the mid-nineties. Subtidal landscapes have also not been assessed.

There has only been limited monitoring of values in the coastal marine area, and there is generally limited information available regarding important spawning, nursery or feeding habitats of marine species, or the distribution of marine species.

A 2007 report on landscape values in the Wainui to Okitu area notes that including conditions specifically intended to tackle issues relating to landscape or amenity in consents are not a general practice.



POLICY FRAMEWORK

The policy framework guiding climate change can be divided into national and regional aspects.

National Policy Direction

New Zealand Coastal Policy Statement (NZCPS)

Applies to natural heritage in the coastal environment. Strong direction regarding identification, assessment and protection of natural heritage values. The TRMP has not been updated to give effect to the NZCPS.

Proposed National Policy Statement for Biodiversity – draft due for release later in 2018.

National Policy Statement for Freshwater Management (NPSFM) - requires councils to set objectives and limits for the state of freshwater bodies, and directs them to manage water quality in an integrated and sustainable way. The NPS-FM includes a National Objectives Framework (NOF), which identifies key aspects of water quality that councils must manage and sets national bottom lines.

New Zealand Biodiversity Strategy 2000-2020

New Zealand is required to have a national biodiversity strategy under the International Convention for Biological Diversity (CBD). The strategy outlines how we will conserve our indigenous biodiversity and how we will contribute to safeguarding biodiversity globally. The current strategy is now quite dated, and DoC is commencing a review.

New Zealand Biodiversity Action Plan 2016-2020

The Action Plan was a targeted update of the original New Zealand Biodiversity Strategy. It sets out national targets and associated actions intended to halt biodiversity decline. The Action Plan supports partnership approaches, community involvement and a 'mountains to the sea' approach to restoration.

Draft Threatened Species Strategy 2017 - sets out how Government intends to halt the decline of threatened species in New Zealand and restore them to healthy populations. The Strategy is based on five themes:

- Uniting against invaders on a landscape scale
- Managing ecosystems at scale to protect species
- Building our science and knowledge base
- Focusing beyond public conservation land
- Working together in partnerships.

Regional Policy Direction

2018-2028 Long Term Plan (LTP) – on of the three strategic priorities is "Tairāwhiti Wai" Improve the wellbeing of our waterways and coastal environments, including protection of healthy soils.

The LTP notes that an Environment Strategy for Tairāwhiti is planned that will:

- Ensure future development supports a healthy natural environment.
- Define outcomes for our natural environment and consider how to achieve the outcomes.
- Support resilient community development and planning in response to climate change.
- Increase our collaboration with the community and partners to achieve good environmental outcomes.
- Provide a shared vision of what council, our community and our partners want to achieve for our environment.

Tairāwhiti Resource Management Plan (TRMP)

Contains provisions relating to natural heritage and coastal management (including matters relevant to natural heritage). Several overlays are used that are relevant to this theme:

- Outstanding Landscape Areas (in the coastal environment)
- Protection Management Areas
- Ridgelines of the Gisborne urban area
- Riparian Management Areas (not mapped)
- Wetlands (regionally significant freshwater wetlands mapped)
- Aquatic Ecosystem Waterbodies – freshwater
- Outstanding waterbodies – freshwater
- Migrating and spawning habitats of native fish - freshwater
- Areas of Significant Conservation Value (coastal marine area)
- Marine Areas of Coastal Significance
- Geological features.

Regional Pest Management Plan

Identifies pest plants and animals, and their status. The distribution of containment pests is mapped.

Community Facilities Strategy – Parks and Open spaces Plan 2017

The network of parks and open spaces across the region will support biodiversity values including the habitat and foraging needs of native species and contribute to protecting ecosystem services (network planning and provision objective); policy around biodiversity (under the effective management objective).

Draft East Coast Hawkes Bay Conservation Management Plan 2018

A new Conservation Management Plan (CMS) that includes the Tairāwhiti region is being developed by DoC. A draft copy was provided to inform development of this topic report. Public consultation on the draft CMS is expected to start in 2019. The draft CMS describes the conservation values and issues for the region and how these will be managed by DoC. Another CMS is also under development - Nga Whakahaere Takirua. This document will help give effect to the strategic conservation partnership between the Crown and Ngāti Porou created as a result of the Ngāti Porou Treaty Claims Settlement. A draft is due to be released in 2019.

CONSULTATION

What have our communities told us in the past?

Previous community feedback has requested:

- Enhancement of green belts and ecological corridors
- High quality physical environments
- Improved ecosystem health
- Biodiversity enhancements (i.e. Waingake Reserve)
- Mainland island(s)
- Environmentally sustainable practices
- Local taonga protected.

Specific projects/ideas raised

- Waikanae Stream as ecological/pedestrian corridor connecting Turanganui River Bridge
- Enhancement of Waingake Reserve

What have iwi told us in the past?

- Hapu/Iwi Management Plan of Nga Ariki Kaiputahi 2012 – managatu catchment area (Mangatu, Waipaoa and Waingaromia River)
- Nga Ariki Kaiputahi yearns to restore the Mangatu ngahere back to its pre-colonised condition to be preserved for our mokopuna and the future of native wildlife that are endemic to the natural habitats of this ecosystem.
- Native trees such as Totara and Manuka be planted on these hill slopes and unproductive areas of land to minimise erosion and rejuvenate native flora and fauna.

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PROTECTING WHAT WE VALUE - SOILS

BACKGROUND

Geographic context

Poverty Bay has approximately 17,000 ha of land suitable for horticultural production. Tolaga Bay has approximately 5,000 ha on the flats around Uawa, Waiapu and Tikitiki (Gisborne District Council, 2016). These soils are among the most fertile and productive in the country, but are a very finite resource, representing only 5% of the region. The soils referred to are the series described as Waipaoa, Matawhero, Waihirere, Makaraka and Makauri (Gisborne District Council, 2018).

Current state

The Poverty Bay Flats have fertile and versatile soils that can be worked by machinery. River stopbanks afford a good level of protection from flooding [cross ref against resilience report], the climate is favourable and infrastructure is well developed. As a result, these flats are the most productive and intensively farmed area in Gisborne. A wide variety of enterprises are established including orchards, vegetable cropping and vineyards.

The combination of soils and climate means that horticulture is a more economic land-use than dairy farming. They are a major contributor to employment and local GDP (Gisborne District Council, 2016).

Land use impacts on soil

Forestry is one of the major industries in Gisborne ever since the 1990s. Whole farms have been converted to plantation forest (Gisborne District Council, 2007). While planting has been shown to improve soil stability in planted areas, when an area is clearfelled, canopy closure is lost and can become erosion-prone again.

Livestock farming, which is one of the most important economic activities within the district, leads to the grazing of crops and indigenous plants, leading to poorer soil quality and erosion (Gisborne District Council, 2007).

Information on crops in the Gisborne region are numerous and up-to-date. Cropping trends in the district show maize, sweetcorn, grapes, citrus, squash and kiwifruit are the most significant summer crops (Gisborne District Council, 2016). The area planted in grapes is still declining slightly, and squash production is increasing on land outside of the Poverty Bay Flats (Gisborne District Council, 2011).

The main issues regarding soils in Tairawhiti are:

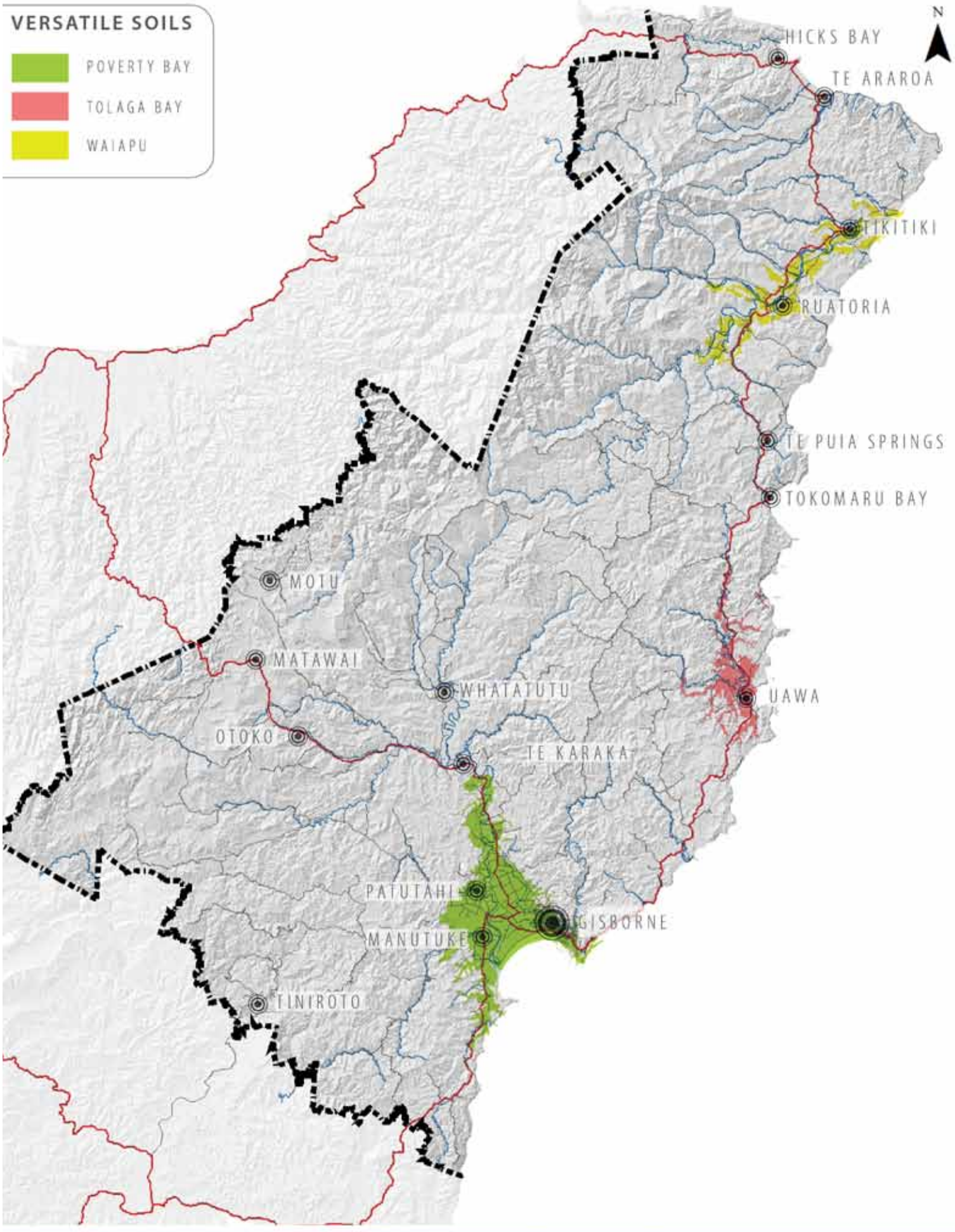
- Loss of such soils through subdivision for housing, and
- The potential for loss due to management practices that deplete soil fertility and structure.

This land is attractive for low-density residential ('lifestyle') and, to a lesser extent, commercial or industrial use. The adverse effects of such use include direct loss of the soil resource and constraints on the operations of growers because of concerns by new residents about matters such as noise, dust and spraying. Otherwise known as 'reverse sensitivity'. (Gisborne District Council, 2018).

Pressure on Productive Soils

Pesticides in large doses may lead to a reduction in beneficial soil microorganisms, affecting plant growth (Aktar, 2009).

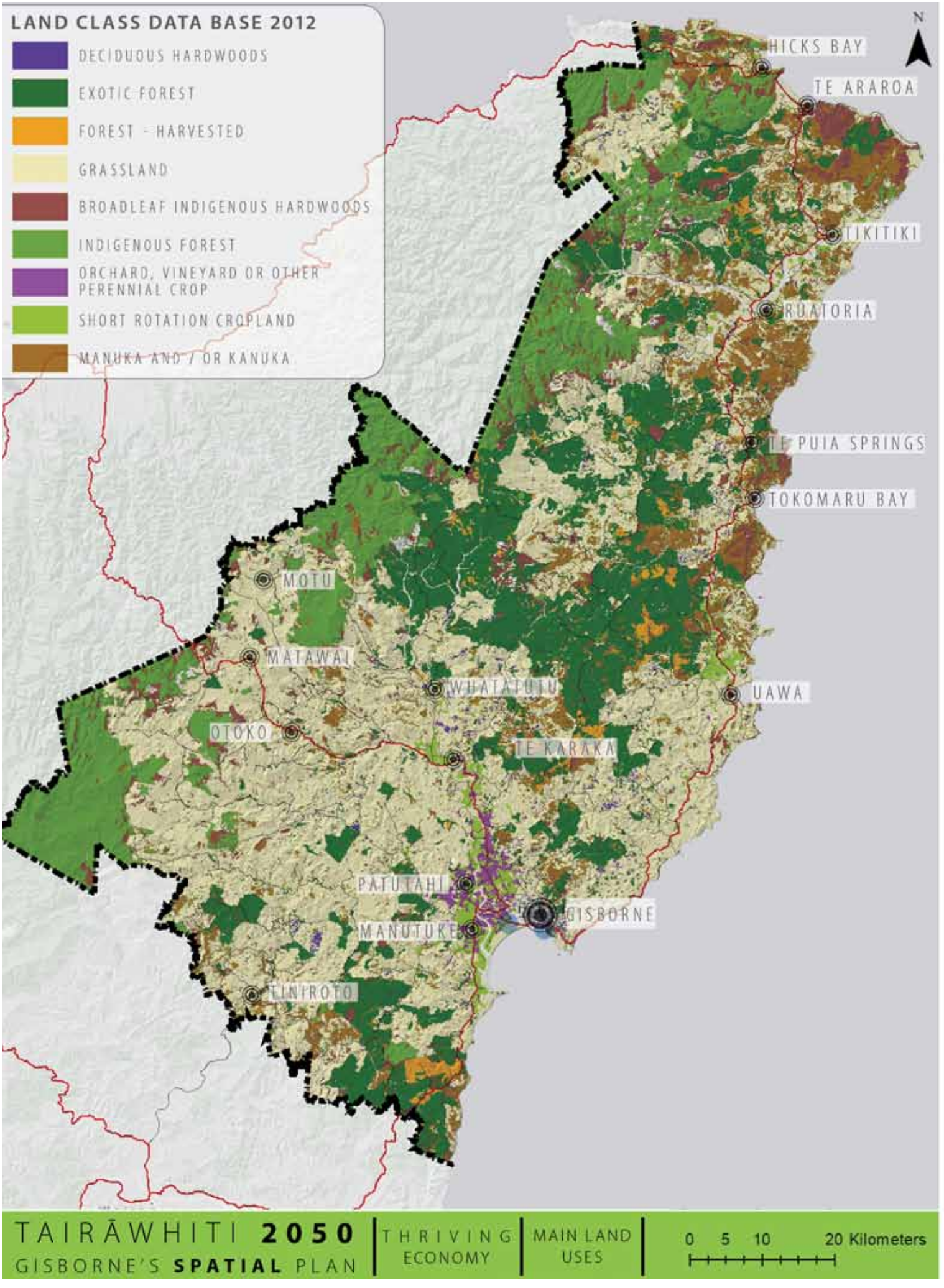
To add to this, livestock and feral animals may graze on crops and indigenous species, reducing humidity and making it difficult for seedlings and saplings to grow, worsening erosion (Smale et al., 2008) which is a problem for the region.



TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN

PROTECTING OUR VALUES | VERSATILE SOILS

0 5 10 20 Kilometers


LAND CLASS DATA BASE 2012
DECIDUOUS HARDWOODS
EXOTIC FOREST
FOREST - HARVESTED
GRASSLAND
BROADLEAF INDIGENOUS HARDWOODS
INDIGENOUS FOREST
ORCHARD, VINEYARD OR OTHER PERENNIAL CROP
SHORT ROTATION CROPLAND
MANUKA AND / OR KANUKA
N
HICKS BAY
TE ARAROA
TIKITIKI
RUATORIA
TE PUIA SPRINGS
TOKOMARU BAY
MOTU
MATAWAI
WHATATUTU
UAWA
OTOKO
TE KARAKA
PATUTAHI
GISBORNE
MANUTUKE
TINIROTO
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
THRIVING ECONOMY
MAIN LAND USES
0 5 10 20 Kilometers

Water Allocation

The total irrigated area in the region is about 4,700 hectares. This is mainly in the Poverty Bay Flats. There are some very small, irrigated sites towards Ruatoria and Motu. 36% of this is irrigated using groundwater, with the remaining 64% from surface water sources (Gisborne District Council, 2016).

The Poverty Bay Flats are located in the Waipaoa Catchment and account for about 90% of regional demand for irrigation water.

This is the only catchment for which freshwater limit setting has been undertaken. There are five main aquifers in the Poverty Bay Flats: Te Hapara sands, Shallow Fluvial Deposits, Waipaoa Gravel Aquifer, Makauri Gravel Aquifer and the Matokitoki Gravel Aquifer.

The Makauri Gravel Aquifer is the main source of groundwater used on the flats. The Waiapoa River is the main surface waterbody source of irrigation water.

Demand for abstraction is likely to increase – national food production targets, climate change predictions, and experiences elsewhere in New Zealand support this statement.

The Waipaoa Catchment Plan includes specific reduction targets for each water management zone that is fully or over-allocated. The allocation status of other catchments is unknown and default limits are set by policy in the Proposed Freshwater Plan.

Often there is insufficient information available on actual flows to adequately assess the potential effect of new water takes. This is a constraint to alternative land use occurring.

Infrastructure

Poverty Bay Flats is located relatively close to Gisborne City (source of labour), the Port, Airport and State-Highway connections. There is land zoned rural industrial in close proximity, which provides land for activities required to support intensive horticulture (such as packinghouses).

Land around Te Karaka is also well-serviced by infrastructure.

However, there is only one main road leading out to the Bay of Plenty, and one down to Hawkes Bay. The closure of one of these roads will effectively isolate Gisborne, affecting transport of goods by road.

Gisborne District Council does not currently have a good understanding of the other infrastructures required for horticulture.

RESPONDING TO SOILS: WORK UNDERWAY

- Managed Aquifer Recharge project – investigation potential to use surface water to replenish the Makauri aquifer.
- Gisborne WWTP discharge consent contains conditions that require the investigation of Alternative Use and Disposal (AUD) of wastewater.
- Soils conservation programme (hill country)
- Erosion Control Funding Programme (ECFP) work
- Contaminated land studies

Further work to be undertaken

- NES implementation
- Central government direction on protection of productive soils

POLICY FRAMEWORK

The policy framework guiding climate change can be divided into national and regional aspects.

National Policy Direction

Government is starting working on national direction for Versatile Land and High Class Soils.

Caselaw

A number of Court rulings relate to attempts to limit urban growth for the purpose of safeguarding productive land. The outcomes have been variable, but the protection of soil alone was not found sufficient justification to refuse sub-division.

Canterbury Regional Council v Selwyn District Council [W142/96] - Regardless of soil qualities, land may not be of high versatility given its setting. "an extremely good soil might be disqualified for a farming use by one or several of the factors".

Conversely, a relatively poor soil might exhibit high value because of proximity to other resources and services.

Regional Policy Direction

Tairāwhiti Resource Management Plan (TRMP)

The TRMP contains provisions intended to protect highly fertile and versatile soils from the effects of subdivision and land use, which are likely to result in their permanent or long-term loss.

The TRMP enables low-density residential development where that development will not put highly productive soils at risk or result in their loss. Rural Residential and Rural Lifestyle zones were created to reduce pressure for residential expansion onto productive land.

When the TRMP was written, controls were only considered necessary on the Poverty Bay flats as there is little evidence of encroachment of lifestyle blocks or impacts on production in other areas such as Tolaga Bay or Waiapu.

Minimum lot sizes:

Rural Production Zone	8 hectares
Rural general	1,000m2

The Rural Production Zone minimum lot size was determined in consultation with industry groups, landowners, leaseholders and other interest groups.

The hearings committee has sent a strong signal on controlling development in the Rural Productive zone. This suggests that subdivision controls for the rural productive zone are being implemented consistently and strongly, which may result in the effective avoidance of further land fragmentation of the rural land resource in those areas designated for protection (Landcare research, 2013).

CONSULTATION

What have our communities told us in the past?

- Further rural land fragmentation was identified by stakeholders as being unsustainable during development of the TRMP Rural Production Zone provisions.
- A review of feedback on consultation undertaken by Council over the last 5 years identifies the following points relevant to this topic:
  - Protect fertile soils from residential encroachment
  - Protection of the elite Poverty Bay Flats soils
  - Horticulture development (trial blueberry plantations)
  - A sustainable primary producer and food supplier for NZ
  - Development of Maori owned land
  - Water quantity & availability.

What have iwi told us in the past?

- Rongowhakaata is strongly opposed to the Maukauri Aquifer managed aquifer recharge project. This is not a view held by all tangta whenua groups.
- Iwi groups do not want discharges of wastewater to the moana to continue. Alternative Use and Disposal is one way to address this issue, and the Consent Review Group support further investigations regarding the feasibility of alternative uses of wastewater.

Gisborne District Council – staff feedback

- Competing pressures
- Retaining it where it's meant to be
- We're not protecting it; it's being lost; effects on flat land; economic flow on effects
- Perverse incentives aren't addressing the problem
- We're not adequately managing and protecting

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PROTECTING WHAT WE VALUE - AIR QUALITY

BACKGROUND

The geographic location of the Gisborne region has a positive impact on the ambient air quality. Gisborne is positioned on the East Coast of the North Island and is relatively exposed to prevailing winds (Gisborne District Council, 2018). There are around49,100 living in the region (McIlrath, Erasmus and Fairgray (2019). The population is dispersed throughout the region with a population density of 5.2 people per km2 compared to the Auckland region for example, that has a population density of 1,210 people per km2 (McClure, 2016). Most of us (37,200) live in the Gisborne urban area.

Air quality of Gisborne

Polluted air can adversely affect human health, buildings and all living things. The nature and cause of air pollution changes with time and location. The Gisborne District is predominantly rural and therefore has generally high air quality most of the time. There are times when the air quality is not so good, particularly in some local areas. For example:

- On calm, cold winter nights in urban areas, concentrations of fine smoke particles (PM10) can build up, sometimes to unhealthy levels.
- As we live in a strong agricultural and cropping setting, windblown dust or dirt can be a problem when ploughing coincides with strong winds.
- Occasionally localised issues arise, such as odour and agrichemical spray drift, which can create a problem for neighbours when the sources are not well managed. Some of these problems can be avoided by the use of best practice standards which industry groups encourage members to comply with.

Particulates and Air Quality

PM10 is made up of solid or liquid particles less than 10 micrometres in diameter, or roughly a fifth of the width of a human hair. PM10 cannot be seen by eye, can remain suspended in air for long periods and is easily inhaled. PM10 comes from sources such as domestic fires, industrial processes and motor vehicles and but also comprises the likes of pollen, sea salt and wind-blown dust.

The ability to readily inhale PM10 means that it can contribute to respiratory diseases and it has also been associated with cardiovascular problems. Those at most risk are the elderly, young children and people with existing respiratory and cardiovascular diseases. The smaller the particle, the further it can penetrate into the airways and lungs and the ultra-fine particles, less than 0.1 micrometres, may enter the blood stream. There is no known "safe" threshold for PM10 so the NES is designed to provide a set level of protection for human health and the environment.

There are two permanent air quality monitoring sites in Gisborne for a major pollutant of concern – PM10. These are located at the airport and at Gisborne Boys High and monitor the levels of PM10 in the air. On average over 24 hours our PM10 levels are within the National Environmental Standards (50 micrograms/cubic metre of air over 24 hours), but there are times of the day when they can be elevated above the health guidelines. This relates to peak times for car use (school drop offs, pickups and commutes to and from work) and people starting up their wood burners/fires in the evening in winter.

Trends in PM10 Levels

Over the past three years of monitoring the winter peak has reduced – and this may reflect increasing uptake of heat pumps and more efficient low emission wood burners, as alternative heating sources which have been promoted and subsidised by central government.

The main trends which can be observed in PM10 levels is the winter increase and summer decline. PM10 in Gisborne is mainly generated from wood burners and open fires used for heating so the winter increase is expected.

Despite this overall trend of improvement, there are still days, particularly in winter when PM10 levels are significantly elevated. Recently the Gisborne Boys High School site data has been telemetered directly to the Council – enabling a live feed to be viewed on the www.lawa.org.nz environmental monitoring website. This information will also be added to the Council environmental data pages – enabling people with respiratory illnesses to check the air quality in the city before they head outside.

ODIN study – Winter 2018

In 2018 Council contracted NIWA to carry out the study from May to August, a period when air quality is usually at its worst in Gisborne. Twenty new sensors called ODINs – Outdoor Dust Information Nodes, were installed around the city to capture air quality readings and highlight the most polluted areas. Samples were collected every five minutes for the duration of the project.

While not suitable for regulatory purposes, the low cost ODINs allowed Council to undertake monitoring at more sites across the city and help identify where the highest concentrations of pollutants are, as required by the air quality standards.

The data confirmed variability in air quality around the city. It recorded poor air quality on several nights in Whataupoko and Inner Kaiti, largely due to coal and wood fires. Other areas did not experience the same high levels of particulate matter.

RESPONDING TO AIR QUALITY

WORK UNDERWAY

- Finished particulate and NOx study of Gisborne urban area (winter 2018)
- Upgrade air quality monitoring equipment and locations

Further work to be undertaken

- Undertake compliance monitoring of industrial discharges
- Envirolink grant to better understand impact of agricultural sprays

Table 1: PM10 levels from Oates Road (Airport) and Gisborne Boys High School (GBHS) Monitoring Sites

Year	2006		2013		2014		2015	
	GBHS	Airport	GBHS	Airport	GBHS	Airport	GBHS	Airport
Annual Mean (ug/m3)	15.5	10.25	17	8.76	13	7.15	16	7.30
Minimum (ug/m3)	4.3	0.42	4	0.06	2	0.35	7	0.17
Maximum (ug/m3)	45.5	28.81	58	26.16	42	22.85	40	17.55
Days where PM10 was > 50 ug/m3 (National Standard)	0	0	1	0	0	0	0	0

POLICY FRAMEWORK

The policy framework guiding regional air quality can be divided into national and regional aspects.

International Policy Direction

World Health Organization guidelines

The World Health Organization (WHO) air quality guidelines were developed in response to the threat that air pollution poses to public health globally (Ministry for the Environment and Statistics New Zealand, 2014).

The WHO guidelines are not standards or legally binding criteria, but are designed to offer guidance in reducing the health impacts of air pollution, based on the ongoing expert evaluation of scientific evidence. They are relevant to New Zealand and support a broad range of policy options for air quality management.

National Policy Direction

Resource Management Act 1991

Under the Resource Management Act (RMA), regional councils and unitary authorities are responsible for managing air quality. Regional councils must monitor the state of the air environment. In order to create rules about air discharges (i.e. an air plan) Councils are required to have an understanding of current ambient air quality so that appropriate standards can be set.

National Environment Standards for Air Quality (NESAQ)

The National Environmental Standards for Air Quality are regulations made under the Resource Management Act 1991 which aim to set a guaranteed minimum level of health protection for all New Zealanders.

The Air Quality NES came into effect on 8 October 2004. They are made up of 14 separate but interlinked standards.

These include:

- seven standards banning activities that discharge significant quantities of dioxins and other toxics into the air
- five standards for ambient (outdoor) air quality
- a design standard for new wood burners installed in urban areas
- a requirement for landfills over 1 million tonnes of refuse to collect greenhouse gas emissions (Ministry for the Environment, n.d.).

Ambient Air Quality Guidelines

New Zealand also has Ambient Air Quality Guidelines (AAQG) that take into account a wider variety of pollutants and ecosystem health as well as human health. They precede the NESAQ and are guidelines, rather than regulations (Ministry for the Environment and Statistics New Zealand, 2014).

Regional Policy Direction

Regional councils and unitary authorities are responsible for managing air quality under the Resource Management Act. They are required to identify areas where air quality is likely, or known, to exceed the standards. These areas are known as airsheds.

Tairāwhiti Resource Management Plan (TRMP)

Contains provisions relating to air quality. Section C1 contains rules for managing discharges to air. Appenix H16 (Ambient Air Quality Guidelines) and H17 (Calculation of chimney heights) support these rules.

CONSULTATION

Gisborne District Council – staff feedback

GDC staff have identified a number of issues relating to air quality in the region in the existing context. These are:

- Highest number of complaints around air quality come from odour, backyard burning and chimney smoke.
- Inconsistencies with TRMP and the National Environmental Standard
- Agrichemical spray management: staff question whether more practical and enforceable rules (or other methods) could be developed.
- Management of dust under general standards: staff question whether an alternative with greater certainty could be developed for 'objectionable airborne contaminants beyond the boundary of the site'.
- Requirements in relation to dispersion modelling for air discharges: require clarification to reduce conflict and provide certainty. Options for reducing the costs for applicants should be investigated.
- Can see Milky Way in Gisborne District Council-Tairawhiti has astronomical value/potential
- Interconnectivity of issues (air quality affects water quality and has consequences at the coast etc.)
- Increasing elderly population – compounding health/ respiratory issues, if the environment degrades
- Seasonal effects of pollen
- Prioritise planting: non-allergenic tree species for council + developers
- Air is a Taonga
- Smaller companies don't care about consent requirements
- Consents not requiring paved sites – dust management over multiple sites
- Wastewater/effluent causing odour issues
- Open fires in urban areas
- Timber treatment at the Port
- Odour from industry in the city

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CONNECTED REGION - ROAD NETWORK

CONTEXT

All four key challenges set out in the Spatial Plan are influenced to a greater or lesser extent by the road transport network and how it operates. In particular, Creating Resilient and Connected Communities requires a multi-modal approach to addressing key issues of climate change, resilience in the transport network, improving road safety outcomes, growth in primary industries and changing population patterns. Road connectivity is the common feature in addressing all of these outcomes: every township, school or business is linked by the roading network and road transport will continue to form the backbone of assisting with access to homes, schools, work, retail and services and supporting social, environmental, cultural and economic wellbeing.

Ensuring the road network meets the challenges of today and the future will support the Government Policy Statement on Land Transport's (2018) (GPS) strategic priorities of access, safety, and environment

BACKGROUND

The region and network

The Gisborne region covers a land area of 8,386 square kilometres located in the north-eastern corner of the North Island. This is approximately 3% of New Zealand's total land area. The relatively low population density with long distances between settlements presents a challenge in providing affordable infrastructure.

Gisborne (both the city and region) is relatively isolated from the rest of the North Island. The region is heavily reliant on two State highway corridors to connect both within the region and to neighbouring regions and the rest of the country. SH2 provides the main road connection to the south along with Tiniroto Road, an alternative local connection to Wairoa, though between Wairoa and Napier there is no suitable alternative. SH2 and SH35 connect Gisborne to the Bay of Plenty. In addition to the state highway network, local roads provide connectivity to local townships and to agricultural activities, particularly logging operations. Of the three state highways in the region. SH2 is identified as a regional highway south of Gisborne, and an arterial from Gisborne to Opotiki, while SH35 is a primary collector. Of the 2220km of roads in the region, 331km or 15% are state highways (ITPP, 2018),

The roading network in Gisborne is dominated by rural roads, many of which are undivided, have 100kph speed limits and challenging topography with narrow alignments and frequent curves. Unsealed roads are common. Where roads pass through townships, speed limits may be reduced to 50 – 70kph. Average annual traffic volumes are typically below 2000 vehicles per day except around Tolaga Bay and Gisborne City where flows may approach 5,000 vehicles per day.

Traffic volumes are generally lighter than would be expected for roads classified as they are: the classification reflects the social importance of the road infrastructure and the lack of redundancy in the transport network. In addition, the proportion of heavy vehicles is high at between 12%-25% on parts of SH2 and SH35 outside of urban areas. (NZTA, 2019)

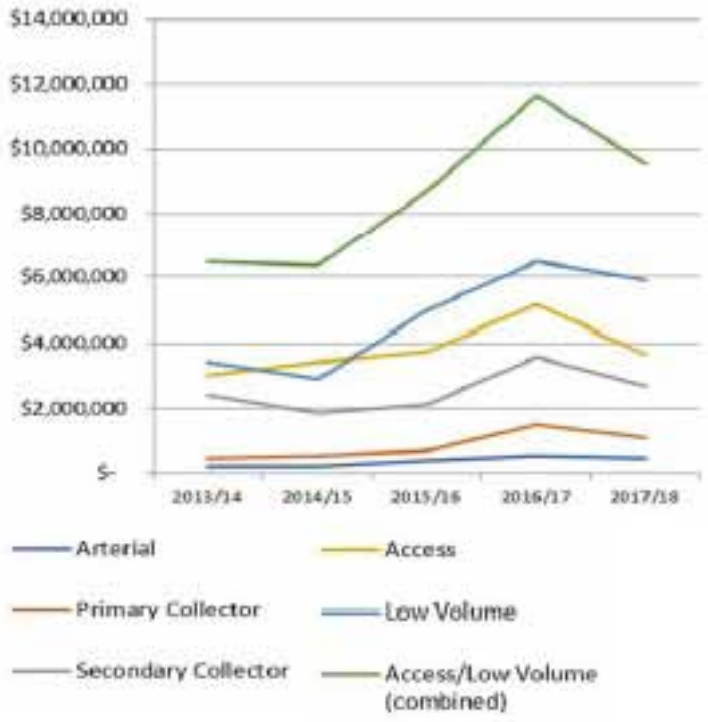
The state highways in the region are classified a combination of 2 and 3 star roads under the Kiwirap safety star ratings, reflecting the volume of undivided highways with challenging alignments. Due to the low traffic volumes, collective risk is typically low or low-medium risk, although personal risk is exclusively medium high or high, and is particularly high in the northern part of the region.

Network condition and resilience

The roading network in Gisborne lacks resilience and redundancy with few alternative routes. This means that if a road is closed, there may be a lack of viable alternative routes. For example, closures of SH2 between Gisborne and Opotiki mean a diversion onto SH35, adding 2 hours to the journey. In addition, all road users are concentrated onto key strategic corridors, placing a heavy wear and tear load on the network. In addition, a high proportion of the local network (55%) is unsealed, which means that it is particularly vulnerable to both wear and tear, and to the impact of extreme weather events and will likely bear higher maintenance costs. The relative costs of maintenance on different road classifications is illustrated in the following diagram from the Gisborne District Council Road Maintenance Cost and Equitable Funding Review (2018), showing that the costs are higher for the lower classification roads.

Maintenance and renewals of the network have also been limited historically through funding constraints which lead to additional maintenance costs imposed on users.

5 year maintenance costs by road (Maven, 2018)



Natural Hazards

The Gisborne district is subject to a wide range of natural hazards that can threaten the security and resilience of the roading network. The roading network is particularly susceptible to weather events. Periodic remnants of decaying tropical cyclones and storms can cause high rainfall, winds and high seas. These events can result in flooding, coastal flooding, coastal erosion and landslides.

This leads to road closure, poor road condition, excessive wear and tear on vehicles and resultant economic loss (in 2016 there were 40 road closures due to flooding and landslides). The community has an expectation that the network will be restored at a fast rate when weather related events cause closures.

Climate change

Climate change trends expected for the Gisborne district include:

- Warmer average temperatures and a greater number of hot days when temperatures exceed 25°C
- Generally, a small decrease in average rainfall across the district; but with local and seasonal variations in the level of change experienced
- Potential increase in storm intensity (wind extremes and rainfall)
- Sea level rise ranging from 0.5m by 2120 (relative to 2000 levels) under a severe global emission reduction scenario, to as much as 1.4m by 2120 under a continued high emissions scenario
- Many of these trends will exacerbate existing natural hazard threats.

The road network is susceptible to surface flooding, landslides and weather degradation.

Expenditure on emergency works in the last seven years averaged $3.2 m per year, far exceeding the budget of $2 million per year. The shortfall and forms part of the activity deficit to be funded by Council over the coming years without NZTA subsidy.

In the future, the frequency of storm events and damage to the network could potentially increase with climate change.

Coastal roads will also become more vulnerable as the rising sea level drives shoreline retreat and increases the risk of coastal flooding. Coastal roads vulnerable to erosion and flooding in the next 50 years include:

- Makorori Road
- The access to Waihau Bay
- Kaiaua Beach
- The access to Nuhiti Beach from Anaura Bay
- Waima, Tokomaru Bay
- Beach roads at Waipiro Bay
- The East Cape Road

Production

The industrial structure of the Gisborne district's economy is shown below.

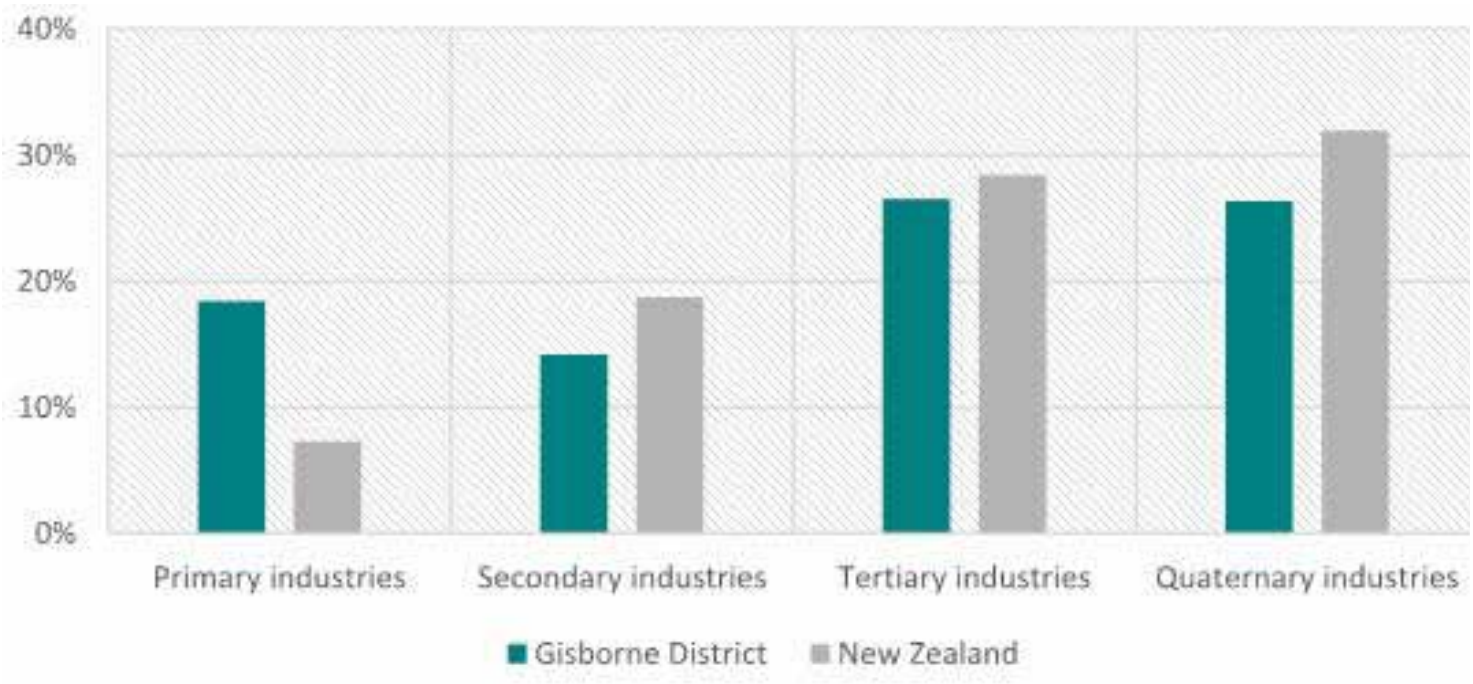
The district has the largest comparative advantages in primary industries (forestry and logging, agriculture and horticulture). Land transport is vital to our economy with roads being the main transport method for supporting these industries.

Log volumes from the forests surrounding Gisborne are estimated to increase rapidly from around 2.5 million tonnes in 2016, to around 4.5m/t by 2020, with a peak of around 5.5m/t in the late 2020's (Gisborne District Council, 2018a). The majority of these logs are shipped directly from Eastland Port. This increase in overall exports is placing pressure on the transport network.

Meat and wool production continues to be an important sector for the local economy. There is anecdotal evidence of growth in horticulture around Gisborne City. Horticultural production on the Turanganui-a-Kiwa / Gisborne flats is anticipated to double by 2022 potentially generating $320M to regional GDP. (ITPP PBC, 2018). There are also opportunities to expand horticultural production further up the coast, which will require efficient connections for export out of the region.

Given the significant reliance on primary production in the region, efficient and reliable connections to Eastland Port, processing sites and the wider North Island are key to maintaining and growing the Gisborne economy.

The Gisborne / Tairāwhiti area is identified as a Regional Economic Development area and a number of transport priorities for the area in the Regional Economic Development Area plan (RED) are to support the forecast growth in the local logging industry.



Freight – current trends

All of Gisborne's primary industries are heavily dependent on land transport and particularly the SH network for transporting produce around and from the region. The National Freight Demand Study (2019) estimated a total freight load of 4.9 million tonnes was transported by road in 2017/18 to, from and around Gisborne, an increase of 11% since 2012. There is however potential to move freight via sea 'the blue highway', or via rail to Hawkes Bay.

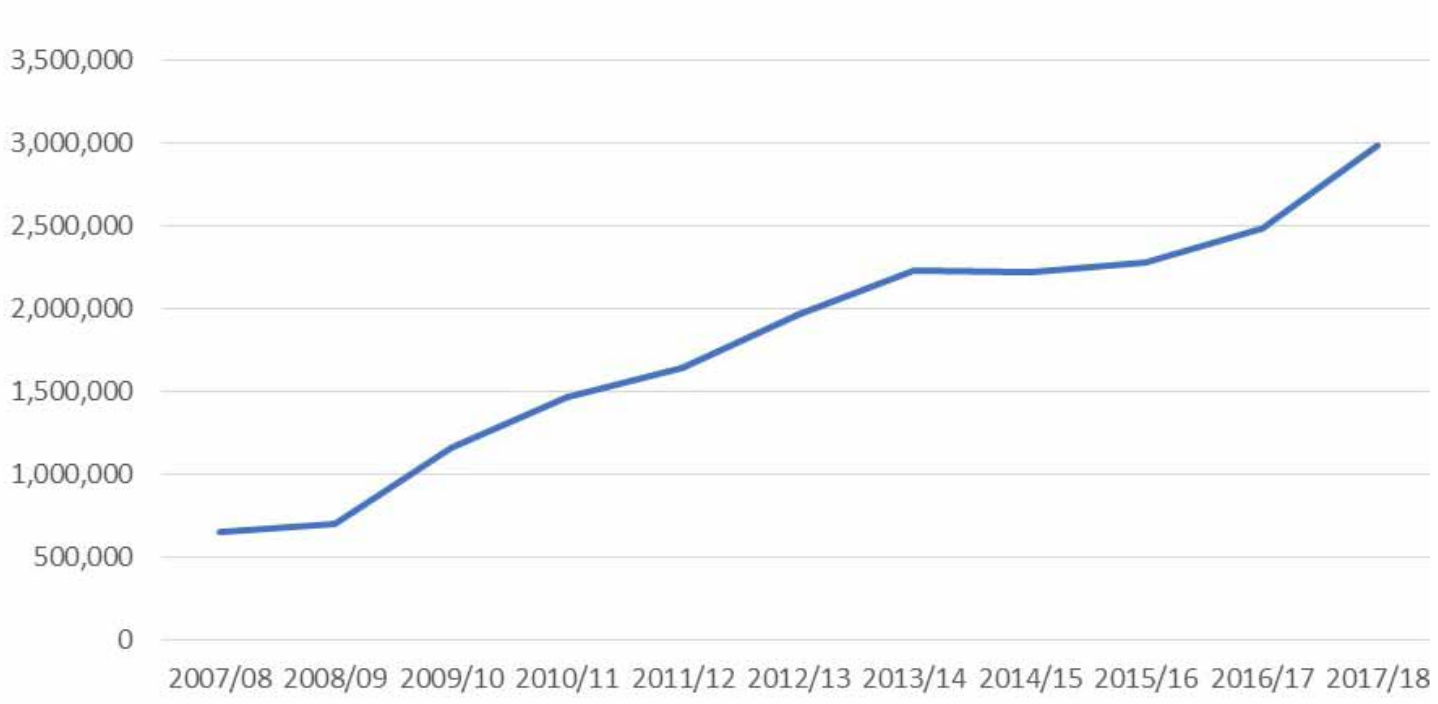
Eastland Port in Gisborne is the destination for much of the log tonnage exported from the region with over 3 million tonnes transported to the port in 2018, up from under 1 million tonnes in 2007/8 (Maven in the Gisborne District Council Road Maintenance Cost and Equitable Funding Review (2018)), and forecasted to increase to 4-5 million tonnes by 2020. In 2012 logs represented 97% of the volume exported from the port. While Eastland Port is well located for export of logs, growth in logging means a significant increase in logging truck volume to the port.

Pastoral farming is reliant on the effective and efficient delivery of goods and services to the farm gate but also on the transport of produce to market in the best condition possible.

Horticultural produce from the area between Tolaga Bay and Gisborne is primarily shipped to Opotiki via SH2 and SH35.

State Highway 2 linking Gisborne to Hawkes bay, the Bay of Plenty and beyond is of critical importance to this supply chain. Data from 2015 shows delays due to traffic incidents on State Highway 2 were four times greater than the national average The key areas of growing pressure on the transport network include rapid growth in freight, particularly export log volumes to the port and other sites, and growing traffic volumes on key urban routes which are under pressure. Preferred safe and efficient heavy transport routes through the city have not been confirmed.

Actual log tonnage to Eastland Port for the last 10 years (Maven, 2018)

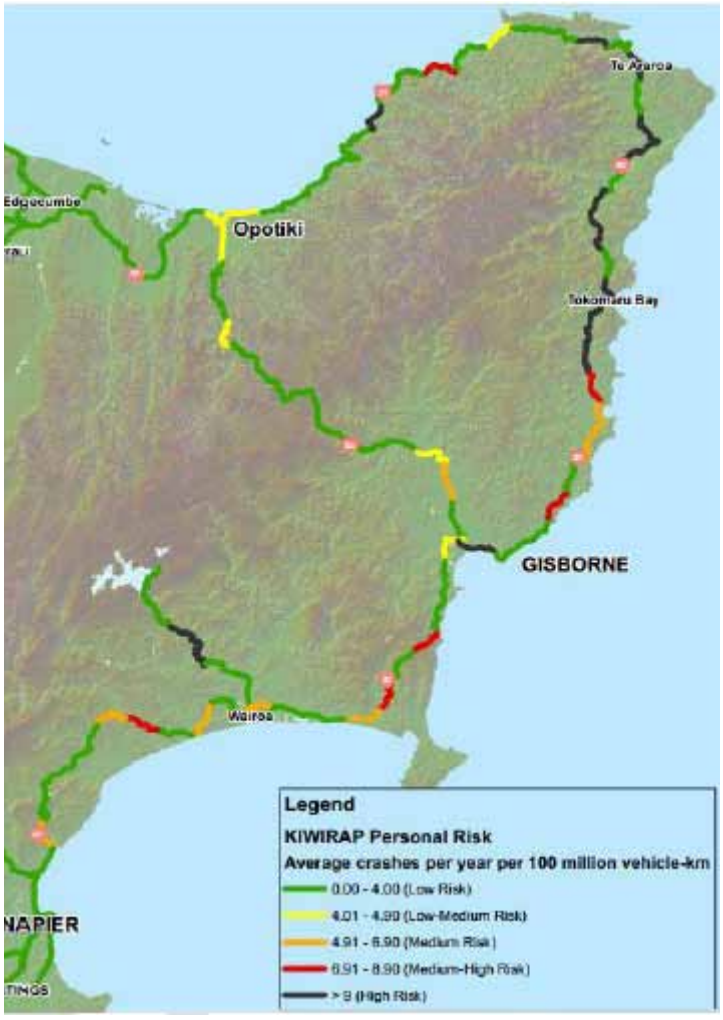


Safety Outcomes

SH2 and SH35 perform satisfactorily from a collective risk point of view, due to low traffic volumes; all areas having a low or medium-low collective risk. However, some sections of SH35 and SH2 (between Gisborne and Napier) operate with medium high or high personal risk, relating to geometric constraints and deteriorating pavement conditions in certain locations as illustrated below.

Collective risk map (Connecting Tairāwhiti PBC, 2018)

Personal risk map (Connecting Tairāwhiti PBC, 2018).



Future drivers for change

National trends in road transportation reflect a growth in e-vehicles (EVs), averaging 100% growth in new EV registrations each year over the past 5 years. The government has signalled an intention to shift towards EV usage through fiscal incentives including reduced fees associated with new EV sales and targets for new EV take- up. In Gisborne the take-up has been slow, with the ratio of EVs per 1000 population around only 1 as of October 2019 (Ministry of Transport, 2019a), the second lowest regional take-up in the country. High power stations for EVs are established in Gisborne, Tolaga Bay, Te Araroa, and Matawai, allowing for the potential to recharge EVs on long drives in the region. (Drive Electric, 2019). While the growth in EVs is expected to continue, the high entry cost of purchasing an EV coupled with Gisborne's low median incomes, range concerns of EVs and the comparatively long distances between settlements which could potentially host EV capable infrastructure for charging, suggests that this growth will continue to be slow. However, the network of charging stations does allow for tourist traffic to navigate the Gisborne district using EVs. In the future, costs for driving petrol vehicles may increase proportionately to reduced cost of using EVs, imposing a proportionately greater cost on Gisborne's population. and lead infrastructure investment may be required to prevent disproportionate costs being imposed on its population and to support growth in production and tourism industries.

Population

In 2016 the estimated population of the district was 47,800. Gisborne has the lowest ratio of population to land area of all North Island regions and the fifth-lowest of New Zealand's 16 regions. Three quarters of the population live in Gisborne city, which had an estimated population of 36,100 in 2016. Other settlements are small, with the largest being Tolaga Bay (population 840), Ruatoria (population 840), Te Karaka (population 550) and Tokomaru Bay (population 410). The relatively small population, dispersed across a wide area means a small base from which to draw rates, limiting the resources available to spend on the transport system. The dispersed nature of the population also means that access to education, health and other services is both dependent on the road network and challenging to provide in some remote locations.

Reliable and efficient transport connections remain the greatest challenge for the region with a large network (1,900 kms) relative to its population (~48,000) and ratepayer base ($56m) (Page, 2018).

The district scores highly on the social deprivation index. Income levels are below national medians, with a median household weekly income of $1,400 in 2017 for both Hawkes Bay and Gisborne combined, compared to $1,578 nationally. This highlights rates affordability as a particular concern and focus for Council and means that raising funds through the small population with low median household incomes is challenging.

After a period of flat growth, Gisborne is forecast to grow to 52,063 by 2043. The majority of growth is expected to be located on the western side of the city and its surrounds, including the Taruheru block. Some growth is also expected in the beach settlements east of the city, along with some intensification within the existing urban area. In addition, the progressive redevelopment of the current industrial area along Awapuni Road allows for further residential growth close to the city, a location which allows the possibility of walking, cycling or potential public transport access to the city centre from these new dwellings. Gisborne's Urban Development Strategy sets out aspirations for the sustainable development of urban areas, including a priority for integrated and efficient core infrastructure in Gisborne City. (Gisborne City Council, 2015). Ensuring future growth in the city supports a future compact city, with integrated transport and safe connections will support this aspiration.

In common with NZ as a whole, Gisborne's population is ageing. The ageing population is likely to have a greater demand for services such as healthcare. Because of the low population and large district area, accessing such services is dependent on road transport. Providing access to services to a growing sector which may also be less able to drive independently is a growing challenge as the population ages, particularly in rural areas.

Travel Patterns

Travel in Gisborne is dominated by private vehicle trips with around 84% of work trips undertaken by private vehicle in 2013. (Ministry of Transport, 2019b). The household travel survey indicates that for all trips in the Gisborne Region, car or van driver or passenger represents 76% mode share, with 18% walking or cycling and 1% using public transport as of 2013. (Stats NZ, 2019).

Gisborne has a limited number of public transport services, targeting accessibility rather than journeys to work. There are three key routes linking the city centre to the surrounding suburbs (and key destinations such as the hospital) tailored to day trips for customers who are unable to drive.

The limited alternative options for travellers in the Gisborne region are reflected in the mode share statistics. This is problematic in terms of providing access to services, particularly outside of the urban area where there are limited public transport options and services are typically too far away to access through active modes.

Tourism growth

Tairāwhiti has a unique cultural identity and easy access to fantastic outdoor recreational opportunities. The Tairāwhiti tourism sector is currently valued at $136m per annum with $20m from international visitors. This figure includes revenue on associated services as well as direct tourism revenue. The tourism sector in Tairāwhiti is relatively undeveloped and has significant scope for growth. NZ tourism has grown by 6% in the last year compared with 1.5% growth locally ($2m per annum in direct tourist activity spend). If the national growth rate of 6% were reached, revenue generated would be $8.1m. The tourism industry relies on both the intra-regional SH35 route and the inter-regional SH2 route for facilitating visitor movement. Safety improvements on these routes will contribute to safer passage for visitors within and to the region.

Future growth in tourism in the region will need to reflect national trends, including providing for EVs as the national fleet moves towards a different fuel source. Potential growth in cycle tourism will also require consideration of perceived or real safety risks, particularly in regard to conflicts with heavy vehicles.

1. Narrow seal, lack of passing opportunities and tight alignment contribute to a significant potential risk – particularly in rural areas – of death and serious injury

Safety

Certain areas of SH2 and SH35 have medium-high or high personal risk due to geometric alignment and/or deteriorating pavement. There have been 4 DSI on SH2 relating to passing maneouvres, although SH35 has no history of DSI crashes relating to passing or overtaking in the past 5 years. (Connecting Tairāwhiti PBC, 2018)

Value for Money

Lack of passing opportunities can impact journey time reliability, particularly when heavy vehicles cannot be passed. This is particularly of concern in regard to growth in heavy vehicles in logging operations.

2. Conflict between active modes of transport and heavy vehicles results in increased personal risk to active users.

Safety

The potential for conflicts between heavy vehicles and active modes on local and regional roads within urban areas is considered important within the region, particularly given the increasing freight task utilising Eastland Port which means the potential for conflicts between pedestrians and heavy vehicles is likely to increase. (ITPP PBC, 2018)

Research (Koorey et al, 2018) suggests that situations where cyclists and trucks share space should be carefully considered, since these situations generally do not reflect a Safe System approach and that where trucks and cyclists must share space, speeds must be low. The growth of trucks in Gisborne will increase potential for trucks and cyclists to be sharing space.

Access

Long travel distances in rural areas and a lack of alternatives to private vehicles means a high car reliance in the Gisborne region. Improving access to services and promoting mode neutrality will be challenging. Measures to improve heavy vehicle routing through Gisborne will assist with the viability of use of active modes.

3. The region's driver demographics are risk takers in their driving and with the maintenance of their vehicles which contributes to a higher than normal regional accident rate.

Safety

Undisciplined seatbelt wearing appears to be a common feature in crashes. 25% of DSI involve alcohol as a factor, which is an overrepresentation nationally. There is also anecdotal evidence that vehicles in the area are older and that there are many unlicensed drivers. (Connecting Tairāwhiti PBC, 2018).

4. The network is susceptible to road closure and climatic conditions leading to poor road condition, excessive wear and tear on vehicles and resultant economic loss.

Access

There is limited redundancy in the transport network for Gisborne. A closure of a road can mean that homes or businesses could be completely cut off, or that access to services could be significantly delayed. Providing alternative inland routes off SH35 may be possible in some locations, but is not always pragmatic or cost effective, so maintaining access, one of the strategic priorities in the Government Policy Statement, is reliant on minimising unplanned closures and ensuring roads are re-opened as soon as possible. In addition, areas of known resilience concern are identified for improvement. New link roads are proposed between Tolaga Bay and Te Karaka which will provide alternative routes, while resilience improvements at known areas of failure are proposed. (ITPP, 2018).

Value for Money

Unplanned road closures impose an economic cost to road users and businesses through delays and journey time reliability. They also impose a cost to businesses in terms of reliability which is significant in relation to horticulture production which relies on just-in-time delivery. Improving network resilience supports council's strategic objective of an integrated regional transport system with efficient and reliable movement of people and goods

5. Parts of the network lack capability and are not able to sustain the current or projected volume of traffic particularly freight.

Access

The condition of the roads with Gisborne District has an impact on the maintenance costs for vehicles, as well as resulting in slower and variable travel times. The additional transport and maintenance costs have to be borne by producers, which reduces the attractiveness for them to invest in the region.

Heavy vehicle traffic, particularly logging trucks, has a significant impact on maintenance costs for infrastructure, particularly on access or low volume roads. Of the known forestry routes, 67% are on access/low volume roads. (Maven, 2018). Growth in the logging industry as well as potential increased horticultural production will put further traffic on these roads, increasing the maintenance cost.

Longer-term there is potential to shift some of the freight load off the road network and onto either a re-opened rail line to Hawkes Bay or via the 'blue highway' through port facilities.

Within Gisborne, access to services is heavily reliant on use of private car, due to limited network alternatives and long travel distances.

Value for Money

Growth in the logging and horticulture industries is dependent on the ability to provide road access to these industries. Anticipated growth will put particular pressure on the approaches to Eastland Port, which are within the Gisborne city area and will result in more freight vehicles competing for roadspace with local traffic. Horticulture growth will be reliant on SH2 to Opotiki and south to Napier, roads which have regular resilience concerns as well as SH35 and local roads if horticultural production expands northwards. The viability of the horticulture industry is at threat if just in time deliveries cannot be relied upon.

The tourism industry has good growth potential and is dependent on the ability of the roading network to support safe movement. Encouraging this sector will be facilitated through reliable, safe and appropriate roading infrastructure provision, including providing for cycle tourism.

EVIDENCE

Substandard road geometry and alignment causing risk of DSI

The personal risk profile of parts of both SH2 and SH35 suggests that there is a risk of DSI in certain areas which is likely to be due to the alignment, geometry or seal width.

Conflicts between Heavy Vehicles and Active Modes causing DSI

The Gisborne NOF details conflicts on key routes throughout Gisborne and identifies amenity and residential conflicts where heavy vehicles on particular streets would potentially cause conflicts with vulnerable users. Safe routes through the city are considered in the NOF and routing decisions should refer to this document. (Gisborne NOF, 2019)

Driver Risk Taking causing DSI

NZTA's CAS database reveals that between 2013-18 there were 15 DSI crashes involving cyclists. Of these, one fatal crash (in Gisborne) involved a collision with truck. There were 24 involving pedestrians, of which three involved collision with a truck, one of which was in the Gisborne urban area.

Overall crashes involving trucks on SH2 and SH35 account for 15% of crashes, below the national average. A high proportion of crashes on SH2 or SH35 relate to bends or loss of control (80%) on SH2 and SH35.

A significant proportion of DSI on SH2 and SH35 result from people not wearing seatbelts. (Connecting Tairāwhiti PBC, 2018).

Road Closures and Network Capability

SH2 north of Gisborne has the highest average number of closures per year for the region. Overall, SH2 experiences roughly double the number of closures as the national average. In 2013 analysis of road closure costs amounted to $35,000 per day between Gisborne and Opotiki, $67,000 between Gisborne and Napier and $93,000 on SH35. (ITPP, 2013).

Over the past five years, SH35 has been closed 29 times, SH2 between Opotiki and Gisborne 23 times and SH2 between Gisborne and Napier 36 times, of which roughly half are due to crashes and half due to environmental causes. On average closures last around 55-59 hours, although environmental closures may have much longer durations. Average durations for slip closures were 241 hours on SH35 and 128 hours on SH2 between Opotiki and Gisborne. (Connecting Tairāwhiti PBC 2018).

The Gisborne and Hawke's Bay Route Security Study identified economic costs of road closures. These range from $35,000 for a day's delay on SH2 Gisborne to Opotiki up to $93,000 for a day's delay on SH35. (Connecting Tairāwhiti PBC 2018).

Industry representatives have indicated that route closures on local roads can cause lost revenue of up to $1,000 per truck per day and $5000 per crew per day. These primarily affect the logging industry during poor weather in winter. (Connecting Tairāwhiti PBC 2018).

Accommodating traffic growth

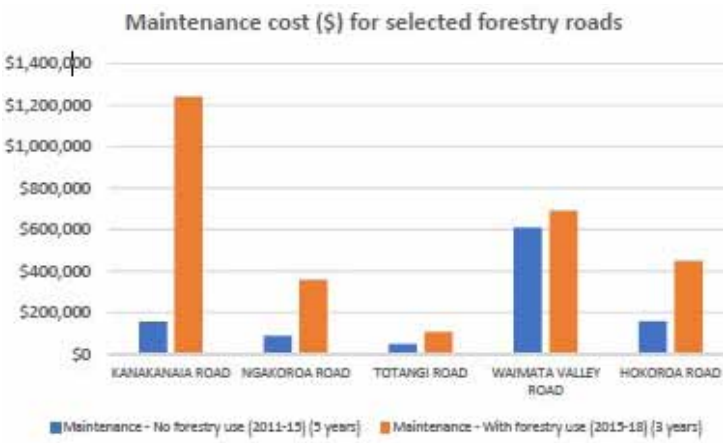
Cost of transporting goods in the East Coast Region is calculated to be 40% higher than in Bay of Plenty Region (ITPP PBC, 2018).

Benefits associated with passing opportunities were analysed in a study of extant passing opportunities on SH2, and demonstrated that the travel time benefits were close to 60% greater than expected. (ITPP PBC, 2018)

Growth in the primary sector is predicted to continue. This will result in ongoing freight pressure on the state highway and local road network, and to Eastland Port. Because of the increased volume of trucks on the roads, in the event of road closures, there will be a proportionately greater cost imposed on businesses relying on the road network.

Within Gisborne itself freight movements will place additional pressure on roads which have already been identified to have operating gaps; notably Customhouse Street, and the Wainui Road/Hirini Street (Gisborne NOF, 2019) which form part of routes to Eastland Port.

The maintenance cost for selected forestry roads has been analysed by Maven in the Gisborne District Council Road Maintenance Cost and Equitable Funding Review (2018), indicating that maintenance costs increase when roads are used for forestry.



Changes in costs for selected forestry roads (Maven 2018)

Safety

We don't know whether safety outcomes associated with increasing heavy vehicles are worsening personal risk to active road users in Gisborne or on the rural network. Further analysis of the data including comparison with underlying cyclist volumes and comparison with national trends would assist understanding.

We don't know what the safety trends are off the state highways.

We don't know what the cause of crashes is – corridor safety analysis required to determine whether the road alignment or carriageway dimensions, age of the vehicle fleet, seatbelt wearing or unlicensed driving and/or network maintenance regime is contributing to the crashes. Road Asset and Maintenance Management (RAMM) data can provide evidence about carriageway widths throughout the network which could be used to cross-reference with DSI data.

Road Closures and Network Capability

The impact of heavy vehicles, in particular forestry trucks, continue to be a cause of concern for urban and rural communities. There is still work to do in terms of optimizing the road network to minimize the impact and conflict generated by this mode of transport.

Identifying freight routes through the city as well as exploring alternative route or bypass options are required. The Gisborne NOF (2019) identified that a preferred east-west freight route to Eastland Port needed to be identified in order to make detailed design decisions for any improvement options for the Wainui Road/Hirini Street and Customhouse Street areas to avoid "reconstruction cost" issues.

We don't know the frequency or duration of unplanned closures on local roads, or what the cost impact of those closures would be to industry.

We don't know what impact roading infrastructure constraints or lack of future infrastructure such as EV charging stations affects tourism potential growth.

Responding to the road network: work underway

- OPERATIONAL. Substantial increase in road maintenance funding through NZTA and PGF funding. This will significantly improve the regional network to better support (among other things) a projected increase in tourism.
- CAPITAL. Upgrade of rest areas along SH35. Addresses the increase in tourist numbers and enhanced marketing of the east coast as a visitor destination.
- STRATEGIC. Feasibility studies also for Te Puia hotsprings and visitor services at East Cape lighthouse (TEAP)
- PLANNING. Structure plan and development of Taruheru block for residential growth.

The Transport Agency is currently in the process of undertaking a comprehensive review of local road network conditions within the Tairāwhiti region to assess existing road surface conditions against LoS expectations as outlined within the Transport Agency's ONRC. (ITPP, May 2018)

Gisborne District Council has identified a full programme of works in its Integrated Transport Priority Plan (ITPP). This plan includes a range of resilience and bridge improvements, passing opportunities and capital improvements across the region. Full funding from central government will be sought for these projects.

FURTHER WORK TO BE UNDERTAKEN

- Continual rollout of projects funded through NLTP and PGF funding
- Identification of a preferred East-West freight route for approaches to Eastland Port

Consultation

- Regional Public Surveys (NZTA) 2016-2018 (see PBC document)
- Road Condition: Customer feedback surveys provided through the Transport Agency's customer survey portal (See ITPP PBC document) indicate that there is a deteriorating trend in feedback regarding road surface condition since 2015 and that customers rating the road condition as good or excellent are significantly fewer in the Gisborne region than in NZ as a whole.
- Concern around the impacts that forestry traffic is having on road condition
- Conflict between forestry traffic and other modes
- Support for cycling
- Pedestrian safety and access
- Facilities and infrastructure in rural townships that can accommodate tourist demand
- Restoration of Hicks Bay and Tokomaru Bay wharves

What have iwi told us in the past?

- Ngai Tamanuhiri have raised specific road-related issues within their rohe – safety and improvements to Wharerata lookout (identity, storytelling, amenity)

POLICY FRAMEWORK

The policy framework guiding road transport can be divided into national and regional aspects.

National Policy Direction

Land Transport Management Act 2003

The purpose of this Act is to contribute to an effective, efficient, and safe land transport system in the public interest. This includes a requirement by regional councils to prepare a regional land transport plan every 6 years.

Government Policy Statement on Land Transport

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment.

Public Transport Management Act 2008

This Act increases the powers of regional councils to plan and manage public transport services. It allows regional councils to:

- require all or any services to be provided under contract to the council
- impose controls on commercial public transport services (eg for quality and performance standards)
- regulate the registration of public transport services.

The Act also clarifies when a regional public transport plan is needed, what its purpose is and the process for developing a plan.

Resource Management Act

The act sets out the functions, powers and duties of local government, and the resource consent and designation process. When building or maintaining the road network, the RMA requires Council to avoid, remedy or mitigate adverse environmental effects caused by the infrastructure - and a resource consent must be applied for if an activity isn't allowed 'as of right' in the relevant district or regional plan.

The Tairāwhiti Resource Management Plan (2018) sets out the principles for how Gisborne District Council will meet its obligations under the RMA. A key principle of the plan is the involvement of tangata whenua in the RMA process, which neatly aligns with Gisborne's statutory, constituent and organisational responsibilities in regard to Māori. In regard to transport the Plan states its objective to be: 'The provision by relevant organisations of safe, efficient, and convenient rail, air, port and road transport services in a way that avoids, remedies or mitigates adverse effects on the natural and physical environment'. Consideration and prioritisation of the range of facilities and services now and in the future which rely upon road transportation within the unique Gisborne environment is vital to supporting this objective in an informed way.

Regional Policy Direction

Regional Land Transport Plan

Regional Land Transport Plans (RLTPs) are six year plans that document the regions' land transport objectives, policies, and measures as well as providing a statement of transport priorities for the region. The Gisborne RLTP strategic priorities are Safety, Resilience, Long-Term Planning, Economic Performance, Affordability and Sustainability.

Regional Public Transport Plan

The Gisborne Regional Public Transport Plan 2018-2021 specifies the public transport services we propose to provide in the region, and how those services will be funded. This plan provides Council with the strategic framework for making decisions around public transport services.

Local Government Act 2002

The LGA sets out Council's requirement to prepare and adopt an infrastructure strategy to identify significant infrastructure issues and identify options for managing those issues.

Infrastructure Strategy

The IS identifies significant infrastructure issues for Council and sets out a plan for managing them across a 30 year horizon. This includes the transportation network. The strategy makes explicit the management options available and the consequences of investment and service level decisions. The strategy forms part of the 2018-28 Long Term Plan.

Gisborne Urban Development Strategy 2015

The UDS provides a vision that reflects our aspirations for achieving the Council Community Outcomes. It has objectives to emphasise redevelopment of the current urban area, and to improve access to neighbourhood centres and local services. A related action is to develop a dedicated active transport network around and across Gisborne that provides safe connections between schools, work places, recreation activities, neighbourhood centres and the CBD.

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CONNECTED REGION - ACTIVE TRANSPORT

CONTEXT

One of the four key challenges set out in the Spatial Plan is Creating Resilient and Connected Communities. This requires a multi-modal approach to address future issues of climate change, low levels of redundancy in the transport network, large geographic area with low population, a growing city of Gisborne, primary industry expansion and aspirations for tourism growth. Active Travel is one element of this multi-modal strategy which has potential to support wellbeing outcomes, the Government Policy Statement on Land Transport's (2018) (GPS) strategic priorities for transport of access and environment, as well as the over-arching theme of mode-neutrality. Active Travel includes walking, cycling, scooting and will support public transport through association, since most public transport journeys will involve an element of walking cycling or other active travel to connect.

Supporting active travel in Gisborne for today and the future supports the Government Policy Statement on Land Transport's (2018) (GPS) strategic priorities of access, safety, and environment, including supporting a land transport system which produces fewer greenhouse gas emissions.

BACKGROUND

As a mode of transport for commuting purposes, cycling within the Gisborne District represents 3.3% of total commuter share. Although this is significantly lower than some regions (i.e. Nelson city has 8% commuter share for cycling), cycle participation rates for commuting within the Gisborne region are similar to national cycling commuter trends (3.2%).

Household travel surveys undertaken by the Ministry of Transport in 2014 indicate walking for commuting purposes is significantly higher within the Gisborne region compared with national averages, with 11% of respondents noting walking the primary mode of transport to work.

The household travel survey indicates that for all trips in the Gisborne Region, car or van driver or passenger represents 76% mode share, with 18% walking or cycling and 1% using public transport as of 2013. (Stats NZ, 2019). Journey to work statistics indicated that active modes represented just 17% of journeys to work in 2013. (Ministry of Transport, 2019). However planned investment in urban cycleways seeks to increase the number of local cycle and walking trips, with a strong focus on providing safe journeys to schools (Gisborne District Council, 2018).

Providing for active travel alternatives not only supports modes of transport which are lower contributors to greenhouse gases, but it also supports the Government's access goals. Gisborne District is particularly dependent on car transport for access to services, but within the Gisborne area where services are relatively close to residential areas, there is potential to encourage active mode travel,

The potential for conflicts between heavy vehicles and active modes on local and regional roads is considered important within the region, particularly given the increase in freight (New Zealand Transport Agency, 2018). There has been dramatic growth in export log volume through the Gisborne Port, which is approximately three million tonnes for 2018 [Figure 1]. This is forecast to grow to an estimated four to five million tonnes per year by 2020 (Page, 2018).

While total heavy vehicle volumes may seem small, outside of urban areas, the proportion of heavy vehicles on the state highways is very high at between 12%-25% on parts of SH2 and SH35. (NZTA, 2019). This high proportion of heavy vehicles, particularly logging vehicles can be intimidating to vulnerable road users and may limit tourism potential in the growing and lucrative cycle tourism sector. Within the urban area, defining safe freight routes through the urban area can assist with minimising risk of conflicts for this growing trend in heavy vehicles travelling to the port.

Town Centre Aspirations

The aspiration for resilient and connected communities requires that the city centre of Gisborne and that of other townships is walkable, cyclable and attractive for other active modes. There is a long term aspiration for a 20% active travel commuter mode share in Gisborne city centre. Achieving this will require improved access to active travel in the city centre and will help to facilitate a vibrant city and townships. A key to improving access to active travel will be managing safety risks and perceived safety risks, and providing targeted infrastructure improvements where required. In Gisborne city, limited connections to the beach and the Taruheru River is a barrier to active travel while busy streets relative to the rest of Gisborne District mean that active modes must share road space with a range of other road users, including heavy vehicles.

Future Trends

There has been rapid growth in e-cycles and e-scooters in New Zealand and globally. In 2014 e-bike sales were 2,300 per year, and this reached 14,000 per year in 2016. (Lieswyn et al, 2017). E scooter use is also growing rapidly. The growth in e-vehicles increases the potential range of active mode users therefore increasing the viability of cycling and scooting as transport modes. Supporting growth in these modes may require future consideration of infrastructure design, and increase the need to separate active mode users from motorised traffic, particularly in urban areas.

Council commitment to active transport – Long Term Plan 2018-28

Council has committed to prioritising its cycleway programme for commuters, especially where it creates safe access for school children. Improving our cycle links and creating safe cycling routes are key priorities in developing our cycle network. This is particularly important for Kaiti secondary school students, who must travel across the city to where all four secondary schools are clustered.

From 2015-2018 the primary focus of delivery has been the Urban Cycleway Project (UCP). This will build a spine of protected cycleway routes designed to separate riders from motor vehicles. An additional amount was contributed by the Highway Network Operations Divisions of NZ Transport Agency. The planned cycleway improvements to connect Wainui and Kaiti to the city will go ahead in 2018.

The second half of the spine will be achieved with the delivery of the Taruheru River Cycle and Walkway, an off road shared path that will run along the river from the CBD to Campion College (Gisborne District Council, 2017). In 2017 Council investigated the feasibility of the Taruheru River Cycle and Walkway. Submitters on the 2018-28 Long Term Plan supported Council's preferred plan - to see this cycleway completed over 2021 - 2024 for a cost of $9.2m. 100% of the funding will need to come from external sources to get it done. Alternately, Council will have to revisit funding options in 2021 and push out the timeframe for completing the project.

Council has also set aside $1.85m in this Long Term Plan (2018-28) for maintaining and making safety improvements to the existing on and off-road cycle routes, and projects we've committed to (Gisborne Distict Council, 2018).

Urban Cycleways Programme (UCP)

Gisborne's Urban Cycleways Programme (UCP) is an outcome of the $333 million central government funded Urban Cycleways Programme (UCP) which was implemented from late 2014. This national programme provided increased investment to accelerate the delivery of cycling networks in our main urban centres, and provided incentives for local authorities to increase their investment in cycling and walking projects (New Zealand Transport Agency, 2019).

The Gisborne UCP aims to get more Gisborne people cycling for everyday transport, by delivering a network of primary and secondary cycling routes east of the Turanganui River. New cycling and walking paths are currently being designed in a joint effort from the NZ Transport Agency (the Transport Agency) and Gisborne District Council (Council).

The NZ Transport Agency, Tairāwhiti Roads and Gisborne District Council jointly submitted a proposal to secure some of this funding. The proposal concentrated on the connections between Wainui and the CBD as detailed within the Gisborne District Council Walking and Cycling Strategy Review – Final Strategy and Action Plan, 2014 (Abley Transportation Consultants, 2014).

The Urban Cycleway Project will help accelerate the completion of the Wainui-CBD route, including improved cycling facilities on both the state highway and the local road network. This joint NZ Transport Agency, Tairāwhiti Roads and Gisborne District Council project will provide 10.65km of cycleways to extend the existing facility from Wainui through Kaiti and into Gisborne's CBD. The project also includes a separated cycle path over Gladstone Bridge (Gisborne District Council, 2016).

The UCP holds promise for Gisborne residents, especially for the younger members of our community. Once completed, the cycling network will serve a catchment that includes five schools which have enthusiastically implemented Bikes in Schools. Gisborne is currently experiencing a growth in capable riders for the first time since the 1990's. Since then, there has also been an increase in both light and heavy vehicle traffic through the area and it is this traffic increase that has created the requirement to separate vehicular traffic from other modes of transport such as walking and cycling (Gisborne District Council, 2018).

Urban cycleways funded projects in Gisborne

Waipaoa Flood Control Scheme Project

The Waipaoa Flood Control Scheme (WFCS) project involves upgrading the scheme to meet a 100 year design storm accounting for climate change effects out to 2090. This is to maintain the level of flood protection provided to the Poverty Bay flats and urban areas.

The current resource application has included provision for a cycle trail to be installed along the new stopbank. A trail plan for the scheme has yet to be developed. If implemented, the trail could provide a strong connecting network between the city and surrounding rural settlements and other destinations on the Poverty Bay Flats. The trail would also support a higher level of recreational amenity for locals and support regional tourism.

In 2017, Council staff consulted with the Cycling Advisory Group (a community representative group) to explore existing and potential cycling routes across Poverty Bay. This provided a means to sound out the flood control scheme cycle trail proposal and to see how it might integrate with the surrounding landscape. The flood control scheme proposal was well received and the group contributed to the development of a wider network concept plan. The plan included the wider Active Transport Network outlined in the Urban Development Strategy 2015, the UCP, existing trails promoted through Council's website, trails that are locally used, and potential trails. While mainly for the purpose of the flood control scheme, there is wider potential in a regional trail concept. This was originally intended to align with the New Zealand Transport Agency's National Cycling Programme. This programme supported the development of urban networks, heartland rides and NZ cycle trail great rides such as the Motu trail. A catchment or wider regional trail concept has yet to be socialised with Council or identified for funding through the LTP.

Waikanae to Waipaoa Landuse Study

The Waikanae to Waipaoa Land Use Study is an assessment of the land uses located along the stretch of coastline from Waikanae Stream mouth to as far as Te Kuri a Paoa - Young Nicks Head. The study will produce a document that describes all current land uses and identifies any strengths, weaknesses, opportunities and threats (SWOT) within the area. The document can be used as a reference to support any design and development in the future, and to identify priority areas for protection or work. It will guide any transition in land use in the area including:

- A possible extension of the coastal walkway from Midway Surf Club and the Olympic Pools;
- The possible redevelopment of Council parks and property assets in this area; and
- The connectivity of the active transport network (Isthmus Group Ltd, 2017).

Public Transport

The Gisborne metropolitan area is serviced by the GizzyBus unit. There are two buses, operated by our contract provider Go Bus. The service utilises 2 modern, sign written, wheelchair accessible buses that operate across 6 routes.

The council subsidises the School bus network which operate services to Gisborne Girls High, Gisborne Boys High, Lytton High, Nga Uri A Maui, Gisborne Intermediate, Campion College and St Mary's, alongside fully funding the Kaiti School bus initiative. The latter service provides subsidized bus travel for secondary school students in the Kaiti area. The service was conceived as part of a wider Government programme (Social Sector Trials) that explored better ways of delivering social services to high deprivation neighbourhoods (Gisborne District Council, 2016).

The contribution that passengers make to the operating costs of the service (fare box recovery rate) has shown a decline over the last seven years.

The Total Mobility Scheme is a nationwide programme that provides discounted transport for people with disabilities which prevent them from easily accessing public transport. Once assessed as eligible for the scheme, individuals can access discounted taxi fares for travel in the Gisborne area. In line with the national trend, boardings have, with the exception of 2008-09, been steadily declining for over 10 years (Gisborne District Council, 2018b). The current mode share for public transport in Gisborne for journeys to work is around 1% (Ministry of Transport, 2019), with a target to reach 10% mode share. Public transport performs a vital role in connecting people to services, particularly in urban areas. It typically functions better in compact urban areas where the number of potential passengers within walking distance (usually 400m) of a bus stop is higher, and can support less car dependent living. Providing for and supporting public transport will be a key element in supporting the development of a more vibrant Gisborne.

Opportunities for expanding public transport outside of Gisborne city are more challenging due to the high outlay to support scheduled services. However, ride-sharing apps offer the opportunity to model new methods of using public transport through on-demand technology.

PROBLEMS AND OPPORTUNITIES

Gisborne is a heavily car dependent district for journeys to work. Long distances between settlements means that access to services, shops and facilities will for many people mean there are no alternatives to the private car. Within Gisborne, there are limited public transport options as well as potential to walk, cycle or scoot to nearby facilities. The flat topography and amenable climate supports active travel, but safety concerns and limited access options to certain parts of the city are a barrier.

Outside of Gisborne City, potential for active travel for access to services is limited and there are no public transport services suitable for commuters. New technologies offer options for developing new, on-demand models of public transport which could facilitate future growth in patronage.

Outside of Gisborne City, there is potential to encourage active travel tourism. Again, potential conflicts with heavy vehicles would be a barrier to encouraging cycling on some roads.

In regard to problems and opportunities for active travel, the RLTP lists the following key issues:

1. Narrow seal, lack of passing opportunities and tight alignment contribute to a significant potential risk – particularly in rural areas – of death and serious injury
2. Conflict between active modes of transport and heavy vehicles results in increased personal risk to active users.
3. Parts of the network lack capability and are not able to sustain the current or projected volume of traffic particularly freight.

Safety

There is a perception that conflicts with heavy vehicles are a barrier to cycle movement. Data for Gisborne 2013-2018 shows there were 15 fatal or serious injury crashes involving bikes. Of the 15, 1 fatal crash involved a truck. (NZTA, 2019) However, the perception of safety and the growth in heavy vehicles in Gisborne means that the risk of conflicts is likely to increase, particularly given the increasing freight movements utilising Eastland Port. (ITPP PBC, 2018).

Access

Within the urban area of Gisborne, the lack of compact urban form and poor access to certain areas is an obstacle to active travel and to supporting mode neutrality. The growth in e-cycles and e-scooters nationally will increase people's accessibility to local destinations.

Environment

Encouraging active travel will support the government's objective of supporting the environment through mode neutrality. Given the limited potential to facilitate active travel trips in the rural areas of the district, the focus will be on Gisborne City.

EVIDENCE

Existing data

The Gisborne NOF details conflicts on key routes throughout Gisborne and identifies amenity and residential conflicts where heavy vehicles on particular streets would potentially cause conflicts with vulnerable users. Safe and efficient routes through the city are considered in the NOF and routing decisions in consideration of their impacts on active modes should make reference to this document. (Gisborne NOF, 2019)

What don't we know?

We don't know whether safety outcomes associated with increasing heavy vehicles are worsening personal risk to active road users in Gisborne or on the rural network. Further analysis of the data including comparison with underlying cyclist volumes and comparison with national trends would assist understanding.

We don't have a baseline for evaluating the vibrancy of Gisborne City. Measures of numbers of medium density/infill housing consents would be one measure for monitoring. Another measure would be pedestrian footfall in key development areas and the city centre. Cycle volumes at new cycling locations should also be monitored.

CONSULTATION

What have our communities told us in the past?

- Support Council's preferred approach to the Taruheru cycleway
- Support for walking and cycling in general
- Community interest in a walk / cycleway from Waikanae Beach to Waipaoa River mouth
- In the annual resident satisfaction survey in 2018/19 43% of respondents were satisfied (rating of at least 7 out of 10) with how safe they feel riding a bicycle in the district. This is up from 33% 2017/18. Comments in the verbatim reports refer to making on road cycleways wider (due to trucks) and more consistent through the district

What have iwi told us in the past?

- Consultation with iwi in development of Waikanae to Waipaoa landuse study – support for study

POLICY FRAMEWORK

The policy framework guiding climate change can be divided into national and regional aspects.

National Policy Direction

Government Policy Statement

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment. The GPS also signals a move to a mode neutral approach to transport planning and investment. This means acknowledging alternative transport modes such as shipping or rail as a way to achieve national transport outcomes. Future versions of the GPS may investigate enabling funding for alternative modes, such as rail and coastal shipping, where they would improve resilience of the transport network.

Land Transport Management Act 2003

The purpose of this Act is to contribute to an effective, efficient, and safe land transport system in the public interest. This includes a requirement by regional councils to prepare a regional land transport plan every 6 years.

Local Government Act 2002

The LGA sets out Council's requirement to prepare and adopt an infrastructure strategy to identify significant infrastructure issues and identify options for managing those issues.

Government Policy Statement

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment.

An increased focus on urban areas aims to ensure that transport and land use planning reduces the need to travel by private motor vehicle (excluding commercial vehicles) by:

- improving access by reducing the need to travel long distances to access opportunities like employment, education and recreation, and
- supporting a mode shift for trips in urban areas from private vehicles to more efficient, low cost modes like walking, cycling and public transport

The GPS recognises that increased uptake of walking and cycling supports the priorities of environment, safety, access and value for money.

Resource Management Act

The Tairāwhiti Resource Management Plan (2018) sets out the principles for how Gisborne District Council will meet its obligations under the RMA, including its involvement of tangata whenua in decision making. A key principle of the plan is the involvement of tangata whenua in the RMA process, which neatly aligns with Gisborne's statutory, constituent and organisational in regard to Māori. In regard to transport the Plan states its objective to be: "The provision by relevant organisations of safe, efficient, and convenient rail, air, port and road transport services in a way that avoids, remedies or mitigates adverse effects on the natural and physical environment". Consideration and prioritisation of the range of facilities and services now and in the future which rely upon road transportation within the unique Gisborne environment is vital to supporting this objective in an informed way.

Regional Policy Direction

Regional Land Transport Plan

Regional Land Transport Plans (RLTPs) are six year plans that document the regions' land transport objectives, policies, and measures as well as providing a statement of transport priorities for the region.. The Gisborne RLTP strategic priorities are Safety, Resilience, Long-Term Planning, Economic Performance, Affordability and Sustainability. In our RLTP Council indicates that it may support rail freight options in line with meeting these strategic priorities.

Regional Land Transport Plan

Regional Land Transport Plans (RLTPs) are six year plans that document the regions' land transport objectives, policies, and measures as well as providing a statement of transport priorities for the region. The plans incorporate programmes of regional land transport activities, including those activities proposed for inclusion in the National Land Transport Programme. They are reviewed after three years.

Long Term Planning is a strategic objective. This objective addresses current and future demand, supports public transport and encourages walking and cycling while supporting enhanced community amenity projects. One of the plan's strategic priorities is for integrated planning that addresses current and future demand, supports public transport and encourages walking and cycling while supporting enhanced community amenity projects.

Infrastructure Strategy

The IS identifies significant infrastructure issues for Council and sets out a plan for managing them across a 30 year horizon. This includes the provision of safe cycleways. The strategy makes explicit the management options available and the consequences of investment and service level decisions. The strategy forms part of the 2018-28 Long Term Plan.

Gisborne Urban Development Strategy 2015

The UDS provides a vision that reflects our aspirations for achieving the Council Community Outcomes. One of its objectives is to improve access to neighbourhood centres and local services. A related action is to develop a dedicated active transport network around and across Gisborne that provides safe connections between schools, work places, recreation activities, neighbourhood centres and the CBD. The plan also sets out objectives around the form of Gisborne's urban area, including the aspiration for an appealing and compact city.

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CONNECTED REGION - AIR TRANSPORT

CONTEXT

One of the four key challenges set out in the Spatial Plan is Creating Resilient and Connected Communities. This requires a multi-modal approach to address future issues of climate change, low levels of redundancy in the transport network, large geographic area with low population, a growing city of Gisborne, primary industry expansion and aspirations for tourism growth. Air Transport is one element of this multi-modal strategy which has potential to support wellbeing outcomes and the Government Policy Statement on Land Transport's (2018) (GPS) strategic priority for transport of access.

BACKGROUND

Gisborne Airport is a regional airport located in the suburb of Elgin, 4.2 km from the city centre. It covers an area of around 160 hectares. It includes our sealed and night-capable runway (Rwy 14/32) at 1,310 metres in length, as well as three grass runways suitable for light aircraft (Eastland Group, n.d.). The airport is owned by Council and operated by the Eastland Group by lease agreement.

Visitor demand

In the year to July 2018, international visitor spending increased by 17.9 per cent and domestic tourists spending was also up 17.0 per cent. Gisborne Airport recorded 156,146 passenger movements mainly between Gisborne, Auckland and Wellington (Gisborne District Council, 2018a). Aircraft movements to and from Gisborne airport have been rising in recent years, from 22.2 thousand in 2010, up to 28.3 thousand in 2018. Similarly passenger numbers through Gisborne Airport increased from 133,000 in 2012/13, up to 170.993 in 2017/18. (Ministry of Transport, 2019).

In 2016, Air New Zealand increased seating capacity to and from Gisborne by replacing the existing 19-seat Beech aircraft with 50-seat Q300 aircraft.

To support and capitalize on this growth, it's important that Tairāwhiti has an airport terminal that is accessible, and provides essential services and facilities.

Airport redevelopment

The Government announced in September 2018 that it will invest $5.5 million in the redevelopment of Gisborne Airport. Our region has been developing its infrastructure over the years to match the growth. The total cost of the redevelopment is $12.5 million and will be co-funded by the PGF, Eastland Group Ltd and the Eastland Community Trust. The funding will be administered as a loan.

Tairāwhiti is relatively isolated from other population hubs. Efficient air travel is vital to the local economy. Reliable air connections provide businesses with opportunities to expand and grow, as well as bring more visitors to the regions, providing opportunities for businesses based in Tairāwhiti to grow their offerings locally.

The redevelopment will ensure the airport terminal reflects the unique cultural aspects of Tairāwhiti, closely linking with the region's Navigations themed tourism initiative which has also received funding from the PGF today. With the 2019 Sestercentennial celebrations to be hosted by the region, the project will cater to expected demand, as well as help tell the story of the region (Gisborne District Council, 2018b).

Citrus Grove

The Citrus Grove Development is a complex one dating back to 2011. Council has maintained a dialogue with Citrus Grove Limited for several years around its interest in developing land in the Makaraka area. Council has previously agreed to work with CG to support its interest in residential development. Council looked at the possibility of a plan change around airport noise provisions to protect airport capacity and ensure surrounding development was appropriate to the area.

Several dimensions complicated the arrangement:

- Financial Implications: There are significant cost implications to amend the District Plan to support urban development in Makaraka as well as the ongoing cost implications associated with building and maintaining new infrastructure. The plan change was originally associated with reviewing and updating noise contours. However, there were many other matters that would need to be addressed if a robust plan change around protecting airport capacity were to be properly undertaken. The total cost would be significant.
- Alignment with Council's Strategic and RMA Planning Framework: Urban expansion is inconsistent with the directions of Council's Urban Development Strategy, the Infrastructure Strategy and the 2015-2025 Long Term Plan.
- The developer has since gone into receivership.

No action around Citrus Grove or the airport has been undertaken since 2015.

PROBLEMS AND OPPORTUNITIES

Given Gisborne's geographical isolation, air travel is, and will continue to form a key part of the local transportation network, and continued provision of air travel can provide resilient transport options to, from and around the region.

Access

Access is one of the strategic priorities in the GPS, seeking outcomes which enable transport choice, are resilient and provide access to economic and social opportunities. In Gisborne, air travel currently offers the only viable alternative to road transport within and outside of the region. Growth in air travel to Gisborne means that protecting airport capacity to accommodate future growth in passenger demand and changes to aircraft and their runway requirements will be required. Access to the airport also includes consideration of land transport access to services, particularly consideration of alternative modes to the private car.

In considering airport development in future, consideration must include:

- Noise contours
- Possible runway extension
- Land designation and acquisition
- Airport masterplanning
- Geotech
- Landscape assessment
- Traffic assessment for land transport access to the airport.
- Flood modelling
- Cost benefit of alternatives
- Archeological assessment
- Ecological assessment
- Site survey
- Affected landowner consultation
- Protecting the elite soils of Poverty Bay Flats
- Avoiding reverse sensitivity issues around infill development near the airport
- Supporting the consolidation of urban form and development around Gisborne city.

EVIDENCE

Existing data

There has been significant growth in passenger numbers flying into Gisborne in recent years. (Ministry of Transport, 2019). Anticipating growth in tourism as well as domestic demand requires land protection at Gisborne Airport to accommodate future changes.

What don't we know?

We don't know what visitor trends are around the region by air, or how viable air is as an alternative to road transport.

Responding to air transport: work underway

- Redevelopment of the Gisborne Airport terminal.

Further work to be undertaken

- Review of relevant provisions in the Tairāwhiti Resource Management Plan

POLICY FRAMEWORK

The policy framework guiding climate change can be divided into national and regional aspects.

National Policy Direction

Government Policy Statement

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment. The GPS also signals a move to a mode neutral approach to transport planning and investment. This means acknowledging alternative transport modes such as shipping or rail as a way to achieve national transport outcomes. Future versions of the GPS may investigate enabling funding for alternative modes, such as rail and coastal shipping, where they would improve resilience of the transport network.

Resource Management Act

The act sets out the functions, powers and duties of local government, and the resource consent, plan proposal and designation process. The RMA requires Council to avoid, remedy or mitigate adverse environmental effects caused by infrastructure. It also sets out direction and requirements when preparing, changing and reviewing policy statements or plans.

Regional Policy Direction

Regional Land Transport Plan

Regional Land Transport Plans (RLTPs) are six year plans that document the regions' land transport objectives, policies, and measures as well as providing a statement of transport priorities for the region. The Gisborne RLTP strategic priorities are Safety, Resilience, Long-Term Planning, Economic Performance, Affordability and Sustainability. In our RLTP Council indicates that it may support rail freight options in line with meeting these strategic priorities.

Tairāwhiti Resource Management Plan (TRMP)

Provides specific provisions around the management of resources relating to the Gisborne Airport. This includes:

- Rules for activities within and adjacent to the airport
- Rules for airport noise and noise boundaries
- Zoning in the airport area
- Designations and designation noise conditions
- Airport protection overlay and air corridor height control limits
- Citrus Grove Structure Plan

In relation to infrastructure, the TRMP has an objective for 'Unobstructed and unimpaired land and airspace for all activities associated with aircraft operations at Gisborne Airport'.

The TRMP also sets out the principles for how Gisborne District Council will meet its obligations under the RMA. A key principle of the plan is the involvement of tangata whenua in the RMA process, which neatly aligns with Gisborne's statutory, constituent and organisational responsibilities in regard to Māori.

Gisborne 2018-28 Long Term Plan (Infrastructure Strategy)

The Infrastructure Strategy supports the approach in the Urban Development Strategy 2015 of encouraging compact urban form (Gisborne Distict Council, 2018c).

Gisborne Urban Development Strategy 2015

Council's Urban Development Strategy (2015) encourages a compact urban form. This is intended to protect the elite soils of the Poverty bay Flats while maximising the efficiency of core infrastructure (Gisborne District Council, 2015). It also specifically has an objective that the airport infrastructure retains the capacity for expansion.

Tairāwhiti Economic Action Plan (TEAP)

The action to renovate the airport terminal is identified within the section: Connecting with people and markets (Activate Tairāwhiti, 2017).

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CONNECTED REGION - SEA TRANSPORT

CONTEXT

One of the four key challenges set out in the Spatial Plan is Creating Resilient and Connected Communities. This requires a multi-modal approach to address future issues of climate change, low levels of redundancy in the transport network, large geographic area with low population, a growing city of Gisborne, primary industry expansion and aspirations for tourism growth. Sea travel is one element of this multi-modal strategy which has potential to support safe travel and wellbeing outcomes, the Government Policy Statement on Land Transport's (2018) (GPS) strategic priorities for transport of access and environment, as well as the over-arching theme of mode-neutrality. As an alternative to road transport within Gisborne, particularly for freight, the 'blue highway' offers the potential to improve resilience options within the region and improve the transport network capability.

BACKGROUND

Port redevelopment

Forestry is a major driver for freight movements from harvest areas across the region to Eastland Port. Because of the significant increases in logging volumes to the port and the effects of heavy vehicles on the roading network, there has been interest in exploring other freight modes. This includes expanding capacity for the existing Eastland Port.

In May 2017 the port revealed its twin berth planned development which involves repair and maintenance of aging port structures so it can park two 200m long ships at port at the same time – something it can't currently do.

Eastland Port needs to accommodate an increasing volume of wood coming out of the region's plantation forests. The port can handle 2.9 million tonnes of wood per year but needs to be able to handle more than 5 million tonnes. Eastland Port also aims to future-proof the port for coastal shipping and new international trade and exports. The twin berth development includes more space to store logs and other cargo, stronger wharves to handle logs, and space to park two 200m long ships at the port at the same time (Eastland Port, n.d.).

Eastland Port exported over 3,000,000 tons of logs, kiwifruit and squash during the 2017/18 financial year, equating to over 100,000 full truck movements. With growing volumes of logs, kiwifruit and apples from the region this volume will top between 4.5 and 5 million tons by 2025. The ports current role as a regional bulk export port will change in coming years to support growing container export volume via coastal shipping to both Napier and Tauranga (Gaddum, 2018).

Of the 178 ships that visited in the year to 31 March 2018, 39 shifted cargo including fertiliser, kiwifruit and squash (Gaddum A., 2018). Coastal shipping will enhance the port's viability and give transport options to local producers. It's a versatile and resilient mode of transportation, with no fixed infrastructure like road or rail, both of which are more susceptible to damage from storms and earthquakes. The Port itself, in common with other modes of transport, will need to respond to threats from climate change, in particular rising sea level.

The nature of a port is that it must change and respond to the needs of regional industry.

Creating room for two 200m long ships to park at the same time will give Eastland Port the opportunity to establish new coastal shipping routes which could include container trade. A fit-for-purpose port will also be able to accommodate new international trade and exports into port operations. As well as trade opportunities coastal shipping supports regional resilience to serious earthquakes or weather events (Eastland Port, 2017).

The twin berth development is expected to take five years (Eastland Port, n.d.).

In September 2017 the port applied for the first of three resource consents for the project. The first resource consent application includes:

- rebuilding wharf 6 and 7
- reshaping the slipway.

The second resource consent application is for:

- Dredging.

The third resource consent application is for:

- extending wharf 8
- required reclamation
- breakwater repairs.

The twin berth facility will also offer improved levels of service for cruise ships. While the turning circle makes it unlikely that cruise ships will be able to berth at the port, the upgrade and the inner harbour development will support an improved visitor experience.

Coastal barging

There has also been some previous interest in developing a log transfer yard and barge berth facility to the north of the region to support current and future developments. A resource consent application was submitted in 2015 by Monte Farm and Forestry Limited, sought to develop a more effective approach to transporting logs to port. The application was withdrawn but still indicates there is interest in further development to coastal shipping along the east coast.

In 2000 Opus also prepared a report for Environment Bay of Plenty exploring, among other things, barging as an alternative to road transport of logs (Opus International Consultants Limited, 2000).

Te Rununga o Ngati Porou (TRONPnui) is also considering the feasibility of a port in Hicks Bay as an alternative route for transporting logs out of the forests located at the top of the East Coast. Ngati Porou Holding Co has already carried out a pre-feasibility study, but is looking to carry out a full feasibility report in a joint effort with Eastland Port and land development company Terrafermah Ltd.

Prior to the pre-feasibility study, Terrafermah had been in the community, independently working towards their own stand-alone feasibility report. Terrafermah obtained a lease agreement with a land owner, whose land has been identified as the area central to possible port development. Both groups hit road blocks in their studies. Now, with Eastland Port's expertise in port operations, the three groups are looking at doing a full study (Komene, 2018).

While there is local opposition to a northern wharf proposal, forestry minister Shane Jones has indicated support for it (Kirk, 2018).

From a transport point of view, a northern wharf proposal offers potential to reduce the cost of road transport to Port, both in terms of fuel cost, and the maintenance cost on local roads and state highways. The proportion of heavy vehicles is high at between 12%-25% on parts SH35 outside of urban areas (NZTA, 2019) and is likely to be higher still on local roads. Providing a coastal barging service between a northern wharf and Eastland Port would allow the creation of a 'blue highway' connecting northern and southern parts of the district. In addition to logging operations, such a wharf facility could support future development of horticulture in the north of the district.

Cruise ships

The number of cruise ships coming to New Zealand and the number of passengers per ship have grown considerably from a decade ago,15 increasing five-fold in the 10 years to the 2014/15 year. A forecast produced by Cruise New Zealand indicates that these numbers are expected to keep growing. The number of passengers has grown 48 per cent from 2010/11 (136,200) to 2014/15 (201,400), and they are expected to grow another 29 per cent by 2016/17 (to 259,200). The average number of passengers per cruise is projected to grow significantly over the 2015/16 and 2016/17 years, going from 1,590 in 2014/15 to 1,920 in 2016/17, suggesting that the average size of cruise ships will increase over that period. The cruise industry is anticipating that larger ships (of around 350 metres) will visit Auckland during the next five years with increasing frequency, according to Auckland Tourism, Events and Economic Development's Cruise Action Plan for Auckland. A significant number of new cruise ships on order are larger than those currently visiting New Zealand (4,000–6,000 passengers). As these larger ships enter service, existing ships are being redeployed to the Oceania region (Ministry Of Business, Innovation And Employment, 2016).

Recent statistics would support these growth forecasts. According to recent reporting from the Gisborne Herald, more than 15,000 extra cruise ship visitors docked in Gisborne in the year to June 2019. The more-than-200-percent rise was the second-highest rise in New Zealand and indicates that Gisborne is coming into its own as a destination (Ashton, 2019).

PROBLEMS AND OPPORTUNITIES

Coastal shipping has significant potential as an alternative mode to road freight within and outside of Gisborne. At present coastal shipping is restricted to primarily exports through Eastland Port in Gisborne, which means that products for shipping out of the region first need to be transported by road to the port. SH2 and SH35, the two state highways in the region are both susceptible to closures through slippage, and vulnerable to crashes. The potential to offer a viable alternative to road connections to the port is consistent with the government's policy direction for mode neutrality, as well as supporting goals for improved access, safety, and environment.

Safety

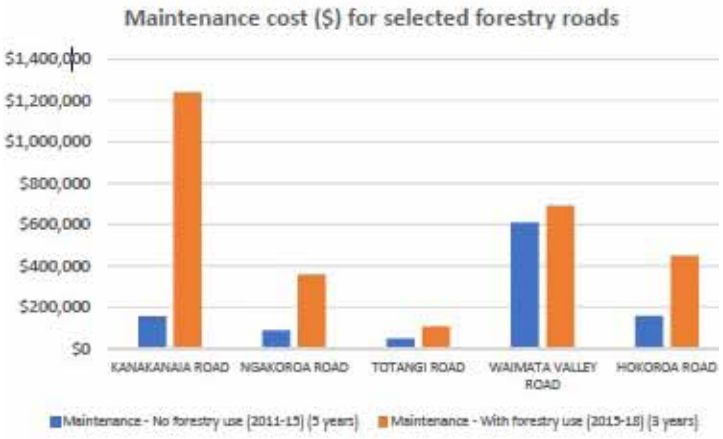
Safety is a key strategic priority in the GPS and the Regional Land Transport Plan (RLTP). The lack of an alternative mode of transport to Eastland Port puts pressure on the road network into and out of Gisborne, particularly SH35 north of Gisborne, much of which has a Kiwirap 2 Star rating, indicating that it is some of the least safe road network in the country. Without a viable alternative, freight to the port will be transported by road. Given the significance of the primary sector exports from the region, there are opportunities to lessen road safety risks if freight movements can be redirected from road to coastal shipping.

Access

Access is one of the strategic priorities in the GPS, seeking outcomes which enable transport choice, are resilient and provide access to economic and social opportunities. The RLTP also identifies economic performance, long term planning and resilience as strategic objectives. The lack of alternative transport options to road freighting between north Gisborne region and Eastland Port means that there are limited alternatives in the event of slips or closures of roads for other reasons. This is problematic when primary production in particular is dependent on reliability of connection and could result in increased cost to other industries such as logging if closures continue.

Growth in the primary sector is predicted to continue. This will result in ongoing freight pressure on the state highway and local road network, and to Eastland Port. Because of the increased volume of trucks on the roads, in the event of road closures, there will be a proportionately greater cost imposed on businesses relying on the road network.

The maintenance cost for selected forestry roads has been analysed by Maven in the Gisborne District Council Road Maintenance Cost and Equitable Funding Review (2018), indicating that maintenance costs increase when roads are used for forestry. There is potential to alleviate these costs through redirecting traffic to a northern Wharf.



Changes in costs for selected forestry roads (Maven, 2018)

Environment

Environment is a strategic priority in the GPS. Sustainability is also identified as a strategic objective in the RLTP, requiring the minimisation of environmental effects associated with the transport system. Shipping offers a genuine alternative to road freight which has the potential to emit lower levels of greenhouse gases and other pollutants as compared with road freight when transporting the same freight volumes.

Value for Money

The GPS emphasises the importance of achieving value for money to achieve Outcomes. With Gisborne's primary sector growth, alongside pressures on the existing road network in particular, there is potential to achieve improved value for money through the more efficient movement of goods through shipping. With no coastal barging option offered at present, there is a lost opportunity cost associated with no operational shipping service.

EVIDENCE

Existing data

Engineering consultancy Opus has undertaken a feasibility study on behalf of Te Rimu Trust to assess the potential of a barging facility at Te Araroa. It shows that in a worst-case scenario, over a 24-year period, it has the potential to save 100 million truck kilometres, $96.6 million in costs including $29 million of road wear, 93 serious road injuries and an estimated 16 deaths (Gregory, 2019).

What don't we know?

- Cruise ship forecasts – what can we expect over the next 30 years, what are the constraints and opportunities to sector growth in Tairāwhiti
- What is the forecasted development of primary and secondary sectors in the region and will it support alternative modes? How will local wood processing affect future port operations?
- What is the impact of heavy vehicles on local roads which could be alleviated through coastal barging? RAMM data may be able to provide guidance on this outcome.

Responding to the road network: work underway

- Inner Harbour redevelopment. The vision for the inner harbour is to transform the area into a vibrant hub in-line with other prime waterfront locations around the country. Features of the upgrade will include an esplanade walkway, green spaces, trees and better accessibility for pedestrians and cyclists. There will be more furniture, upgraded parking facilities and improved lighting. This project forms part of a wider programme of design projects surrounding the port (Navigations).
- Twin berth development for Eastland Port
- The preparation of an integrated Tairāwhiti Resource Management Plan to identify transport issues and prioritise solutions that will maximize value to landowners and increase productivity of under-used land in the region.

What have our communities told us in the past?

- Community concerns around the state of roads impacted by logging trucks
- Concerns around the conflict between truck movement through the city to and from the port, and community amenity values and safety

What have iwi told us in the past?

- Iwi concerns around the impact of Eastland Port developments on surrounding fresh and coastal water quality. The recent twin berth development received opposition from iwi on the basis of the impacts it would have on the crayfish habitat underneath the port.

POLICY FRAMEWORK

The policy framework guiding sea transport can be divided into national and regional aspects.

National Policy Direction

Government Policy Statement

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment. The GPS also signals a move to a mode neutral approach to transport planning and investment. This means acknowledging alternative transport modes such as shipping as a way to achieve national transport outcomes. The second stage GPS will investigate enabling funding for alternative modes, such as rail and coastal shipping, where it would improve resilience of the transport network.

New Zealand Coastal Policy Statement 2010 (CPS)

The CPS provides direction around the sustainable management of activities within the coastal environment. Specifically, Policy 9 recognises the safe and efficient operation of ports within this environment.

Regional Policy Direction

Tairāwhiti Resource Management Plan (TRMP)

The TRMP provides provisions for the management of activities within the coastal environment. Also area-based provisions relating to the Port Coastal Management Area (DP1) and Port Management Zones (DP2).

The Tairāwhiti Resource Management Plan (2018) sets out the principles for how Gisborne District Council will meet its obligations under the RMA. A key principle of the plan is the involvement of tangata whenua in the RMA process, which neatly aligns with Gisborne's statutory, constituent and organisational responsibilities in regard to Māori.

Tairāwhiti Economic Action Plan (TEAP)

The action to improve port operations to better manage increased log volumes is identified within the section: Connecting with people and markets.

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CONNECTED REGION - RAIL TRANSPORT

CONTEXT

One of the four key challenges set out in the Spatial Plan is Creating Resilient and Connected Communities. This requires a multi-modal approach to address future issues of climate change, low levels of redundancy in the transport network, large geographic area with low population, a growing city of Gisborne, primary industry expansion and aspirations for tourism growth. Rail is one element of this multi-modal strategy which has potential to support wellbeing outcomes, the Government Policy Statement on Land Transport's (2018) (GPS) strategic priorities for transport of access and environment, as well as the over-arching theme of mode-neutrality.

BACKGROUND

The Palmerston North-Gisborne Line (PNGL) is a secondary main line, providing railway connections between key urban areas within the Gisborne and Hawke's Bay region and the North Island Main Trunk railway in Palmerston North. The Gisborne to Napier portion of the network was completed in 1942 and primarily operated a freight movement function however, the line was closed in 2012 following several large washouts north of Wairoa resulting in significant damage to rail infrastructure. Given the high costs for repairing the line and the rising maintenance costs from aging infrastructure, KiwiRail subsequently announced the line would be closed indefinitely.

In October 2016, it was announced that KiwiRail would reopen a section of the line between Wairoa and Napier and in early 2018 announced the reopening following support from the Regional Infrastructure Growth fund. The Wairoa-Napier line is intended to operate on weekends transporting timber to the Port of Napier.

The Wairoa to Gisborne section of the track has recently been leased for tourism activities . The section between Gisborne and Muriwai is used for steam train excursions.

Production

Log volumes from the forests surrounding Gisborne are estimated to increase rapidly from around 2.5 million tonnes in 2016, to around 4.5m/t by 2020, with a peak of around 5.5m/t in the late 2020's (Eastland Port estimates). The majority of these logs are shipped directly from Eastland Port. This increase in overall exports is placing pressure on the transport network.

Meat and wool production continues to be an important sector for the local economy. Horticultural production on the Turanganui-a-Kiwa / Gisborne flats is anticipated to double by 2022 potentially generating $320M to regional GDP.

The Gisborne / Tairāwhiti area is identified as a Regional Economic Development area and a number of transport priorities for the area in the Regional Economic Development Area plan (RED) are to support the forecast growth in the local logging industry.

Tourism growth

Tairāwhiti has a unique cultural identity and easy access to fantastic outdoor recreational opportunities. The Tairāwhiti tourism sector is currently valued at $136m per annum with $20m from international visitors. This figure includes revenue on associated services as well as direct tourism revenue. The tourism sector in Tairāwhiti is relatively undeveloped and has significant scope for growth. NZ tourism has grown by 6% in the last year compared with 1.5% growth locally ($2m per annum in direct tourist activity spend).

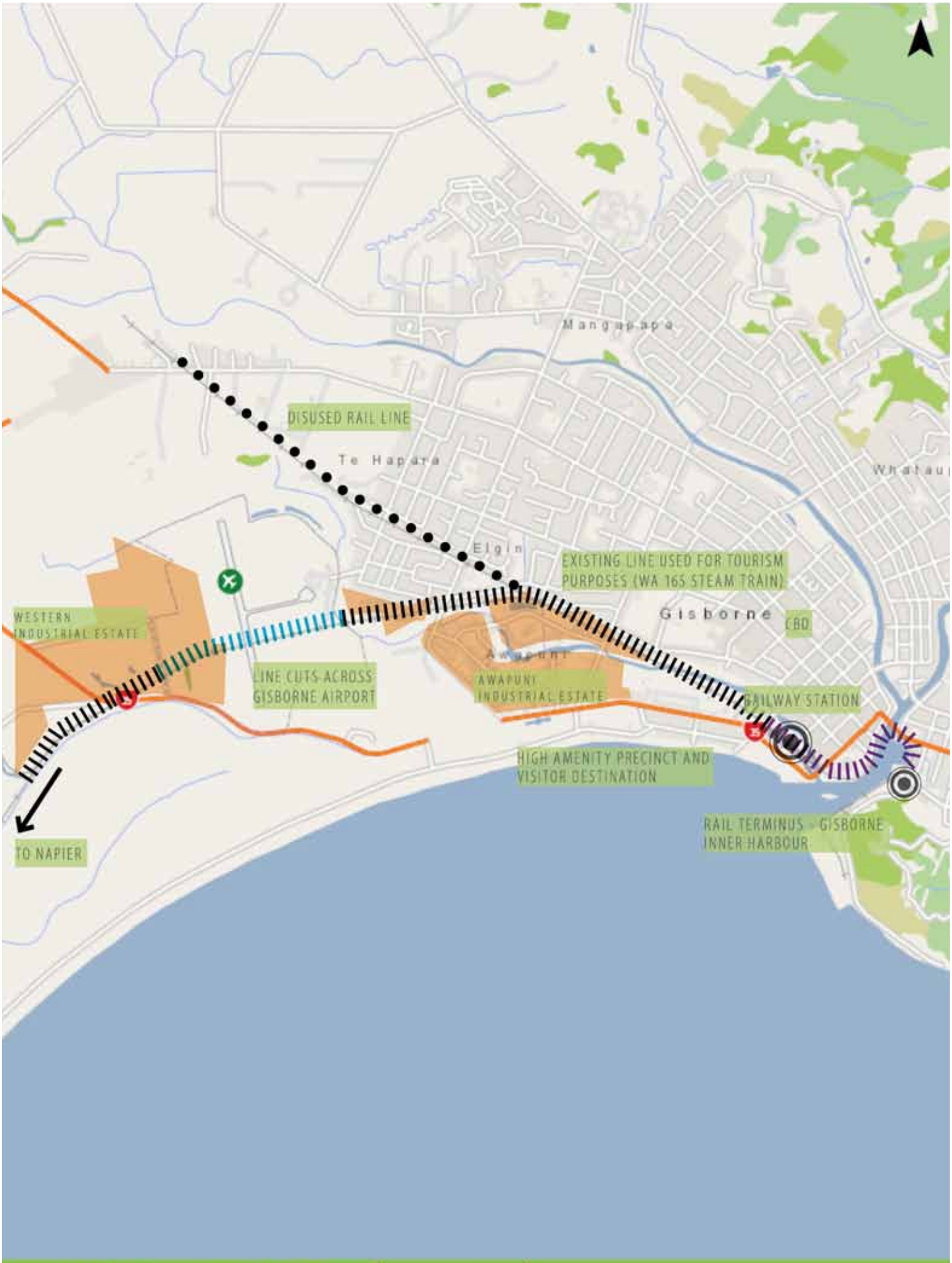
Gisborne City Vintage Rail operates a successful venture that has capitalized on the recent growth in the numbers of visiting cruise ships. The growing interest in vintage rail is further supported by expressions of interest from operators like Mainline Steam and Steam Incorporated who are keen to run scenic tours into our region.

Freight

The key areas of growing pressure on the transport network include rapid growth in freight, particularly export log volumes to the port and other sites, and growing traffic volumes on key urban routes.

Gisborne's primary industries are heavily reliant on land transport for the majority of produce and supply movement. Pastoral farming for example is reliant on the effective and efficient delivery of goods and services to the farm gate but also on the transport of produce to market in the best condition possible.

State Highway 2 linking Gisborne to Hawkes bay, the Bay of Plenty and beyond is of critical importance to this supply chain. Data from 2015 shows delays due to traffic incidents on State Highway 2 were four times greater than the national average. Improving network resilience is central to the council's strategic objective of reducing economic loss.


DISUSED RAIL LINE
Te Hapara
Elgin
EXISTING LINE USED FOR TOURISM PURPOSES (WA 165 STEAM TRAIN)
Gisborne
CBD
WESTERN INDUSTRIAL ESTATE
LINE CUTS ACROSS GISBORNE AIRPORT
AWAPUNI INDUSTRIAL ESTATE
RAILWAY STATION
HIGH AMENITY PRECINCT AND VISITOR DESTINATION
RAIL TERMINUS - GISBORNE INNER HARBOUR
TO NAPIER

PROBLEMS AND OPPORTUNITIES

The closure of the Gisborne to Napier section of NZ's rail network in 2012 removed one of the mode options for travellers and freight to and from Tairāwhiti, resulting in increased reliance on other modes of transport. The lack of rail as an alternative mode of transport out of the region is inconsistent with a number of overarching policy and strategic objectives.

Safety

Safety is a key strategic priority in the GPS and the Regional Land Transport Plan (RLTP). The lack of rail as an alternative mode puts pressure on the road network into and out of Gisborne, specifically SH2 between Gisborne and Napier, much of which has a Kiwirap 2 Star rating, indicating that it is some of the least safe road network in the country. Without an operational rail connection much of the freight exported will be transported by road and alternative options are limited. Given the significance of the primary sector exports from the region, hence the safety risks are worsened through the closure of the line.

Access

Access is one of the strategic priorities in the GPS, seeking outcomes which enable transport choice, are resilient and provide access to economic and social opportunities. The RLTP also identifies economic performance, long term planning and resilience as strategic objectives. The lack of alternative land transport options between Napier and Gisborne means there is limited potential for the region to offer viable alternatives to travel by road to and from the region. The limited road connections to the region also indicates limited redundancy in the transport network in the event of closures. The presence of a rail link would offer a significant resilience benefit. Rail also potentially offers the opportunity to reduce the transport costs to primary industries exporting from Gisborne. Given the reliance on primary production in the region, efficient and reliable connections to Eastland Port, processing sites and the wider North Island are key to maintaining and growing the Gisborne economy.

Given that the reason for the rail closure was slippage on the line, if the line is re-opened, measures to ensure that weather-related incidents, which may increase in frequency or severity through climate change, are mitigated against to prevent future closures.

Environment

Environment is a strategic priority in the GPS. Sustainability is also identified as a strategic objective in the RLTP, requiring the minimisation of environmental effects associated with the transport system. Rail offers a genuine alternative to road freight which has the potential to emit lower levels of greenhouse gases and other pollutants as compared with road freight when transporting the same freight volumes. The potential for growth in tourism in the region using lower-emission modes compared with road or air is similarly constrained in the absence of any passenger rail services.

Value for Money

The GPS emphasises the importance of achieving value for money to achieve Outcomes. With Gisborne's primary sector growth meaning more trucks likely to exit the region in future, alongside pressures on the existing road network in particular, there is potential to achieve improved value for money through the more efficient movement of people and goods on rail. With no rail option offered at present, there is a lost opportunity cost associated with operating a rail service.

EVIDENCE

Existing data

In late 2012, Business and Economic Research Limited (BERL) undertook a review of the economics of the Napier to Gisborne Rail Line (Sanderson, Nana, & Generosa, 2012). The study is not conclusive in its findings but suggests that the line could be economically viable. It also notes that expenditure on rail would be offset by expenditure on road (which also requires investment), and that the external benefits of rail transport are considerable and relevant in the context of climate change. A comprehensive Cost Benefit Analysis would be necessary to provide sufficient evidence for a sound decision on the future of this line.

What don't we know?

Currently we don't know if it is economically feasible to reopen the Gisborne to Napier rail line. The latest Tairāwhiti rail feasibility Study, once released to the public, should confirm this. In particular it is anticipated that this study will examine the costs associated with the closure of line, including but not limited to:

- Safety costs of use of road as opposed to rail for freight
- Environmental costs of use of road compared with rail for freight
- Capital investment and maintenance costs associated with reopening and operating the rail line as compared with reliance on road
- Resilience costs of road closures which could be mitigated through rail as an alternative route
- Impacts on people through trucks travelling through Gisborne to get to port where rail is an alternative
- Opportunity costs to the primary sector
- Opportunity costs to the tourism sector.

Responding to the rail network challenges: work underway

- BERL are currently preparing a feasibility study for the Gisborne to Wairoa rail line (up to $600k earmarked through PGF).

Consultation

Communities have communicated their broad past and current public support for reinstating the line.

There has been significant public interest in the line's reinstatement. Advocates point out the damage and costs that logging trucks impose on the road network as well as the conflict with other modes. The port's location reinforces this conflict by forcing freight through several communities and impacting on local amenity values. Using the direct rail link to port is seen as having the potential to mitigate the effects on the community.

Opponents have been less vocal but there have been concerns made around the whether rail could be a cost-effective and practical alternative to road-based freight. There have also been concerns relayed through the Gisborne Herald that the financial costs of fixing the line would be prohibitive.

To date no clear consensus has been reached as to the future of the line. In the interim, there has been some interest in using the mothballed line as a cycleway to promote regional tourism.

On 21 January 2013 Labour and the Greens vowed at a public meeting in Gisborne that they would reinstate the Gisborne to Napier railway line if they won the 2014 election.

In September 2018, the Government announced the availability of funding (up to $600k) to undertake a Tairāwhiti rail feasibility Study. The findings of the study will help to determine a way forward for rail freight in this region.

The New Zealand Labour party has indicated its commitment to supporting rail infrastructure. This includes re-opening moth-balled railway lines where community and business support exists, and there is evidence that the service would be sustainable, notably the Napier to Gisborne rail line (New Zealand Labour Party, n.d.).

POLICY FRAMEWORK

The policy framework guiding rail can be divided into national and regional aspects.

National Policy Direction

Government Policy Statement

The GPS directs investment in order for the Government to achieve its strategic and policy goals for land transport. Its key strategic priorities are safety and access; its supporting priorities are value for money and environment. The GPS also signals a move to a mode neutral approach to transport planning and investment. This means acknowledging alternative transport modes such as shipping or rail as a way to achieve national transport outcomes. Future versions of the GPS may investigate enabling funding for alternative modes, such as rail and coastal shipping, where they would improve resilience of the transport network.

Regional Policy Direction

Regional Land Transport Plan

Regional Land Transport Plans (RLTPs) are six year plans that document the regions' land transport objectives, policies, and measures as well as providing a statement of transport priorities for the region.. The Gisborne RLTP strategic priorities are Safety, Resilience, Long-Term Planning, Economic Performance, Affordability and Sustainability. In our RLTP Council indicates that it may support rail freight options in line with meeting these strategic priorities.

Tairāwhiti Resource Management Plan (TRMP)

The Tairāwhiti Resource Management Plan (2018) sets out the principles for how Gisborne District Council will meet its obligations under the RMA. A key principle of the plan is the involvement of tangata whenua in the RMA process, which neatly aligns with Gisborne's statutory, constituent and organisational responsibilities in regard to Māori. In regard to transport the Plan states its objective to be: *'The provision by relevant organisations of safe, efficient, and convenient rail, air, port and road transport services in a way that avoids, remedies or mitigates adverse effects on the natural and physical environment'*. Consideration and prioritisation of the range of facilities and services now and in the future which rely upon road transportation within the unique Gisborne environment is vital to supporting this objective in an informed way.

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SETTLEMENT PATTERNS

POPULATION

Te Tairawhiti region covers 8386 square kilometres. Situated on the north eastern corner of Te Ika - a - Maui (North Island), Tairawhiti is also referred to East Cape, East Coast and Eastland. The total population of Tairawhiti is estimated at around 47.900 (Erasmus et al, 2019). The majority of people live in Gisborne City, which hosts a population of around 37,000 or 79% of the total population (id, 2017). The remainder of people live in rural coastal and inland townships, connected by SH 35, and SH2. Each township has a distinct identity and community spirit.

The population of the Tairawhiti region is expected to follow a similar pattern of growth that has been experienced over the past five years. Table 1 shows population growth for Tairawhiti between 2018 and 2048, based on previous growth rates.

Table 1: Tairawhiti Region population estimates and projections

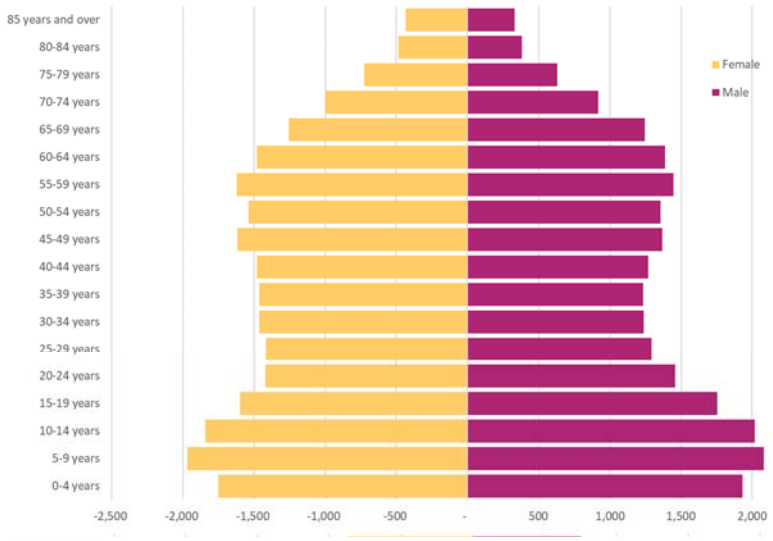
Year	Estimated growth
2018	47,900
2023	48,600
2033	50,100
2013	52,050
2048	53,050

Table 1 shows that by 2048, the population is projected to be around 53,040 which shows an increase of 11%. The population of New Zealand is expected to raise by 25% over the next 30 years.

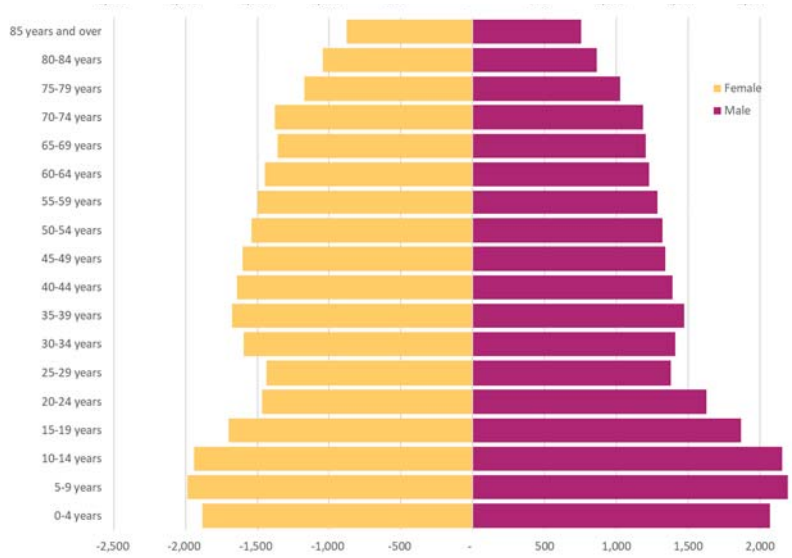
Tairawhiti, like the rest of New Zealand, is facing the prospect of an aging population. Currently those aged 70+ accounts for 10% of the population. This is expected to rise to 16% of the population over the next 30 years. Those aged between 15 and 64 years will see a decline. This age group forms an important part of the labour force. Those aged between 15-44 years will see some growth, of around 1,580 (Erasmus et al, 2019). This is depicted below in Figure 1.

Population growth and shifts described above impact on factors such as household size and type. As the population ages, the market needs to cater for housing to suit the needs of an aging population. This also impacts on location and distribution of housing, and the proximity of housing to healthcare and community facilities. (Erasmus et al, 2019).

Figure 1 : Population Pyramid (2018 and 2048)



2018



2048

Table 2: Gisborne city suburbs population estimates and projections

Area	2018	2048	Change
Gisborne Airport - Awapuni	2,910	3,050	+140
Gisborne Central	3,430	4,370	+940
Kaiti North	4,540	4,725	+185
Kaiti South	2,970	3,390	+420
Mangapapa	4,545	4,920	+375
Riverdale	2,835	4,410	+1,575
Tamarau	2,545	2,785	+240
Te Hapara	4,830	5,080	+250
Wainui - Okitu	2,025	2,565	+540
Whataupoko	3,925	4,235	+310

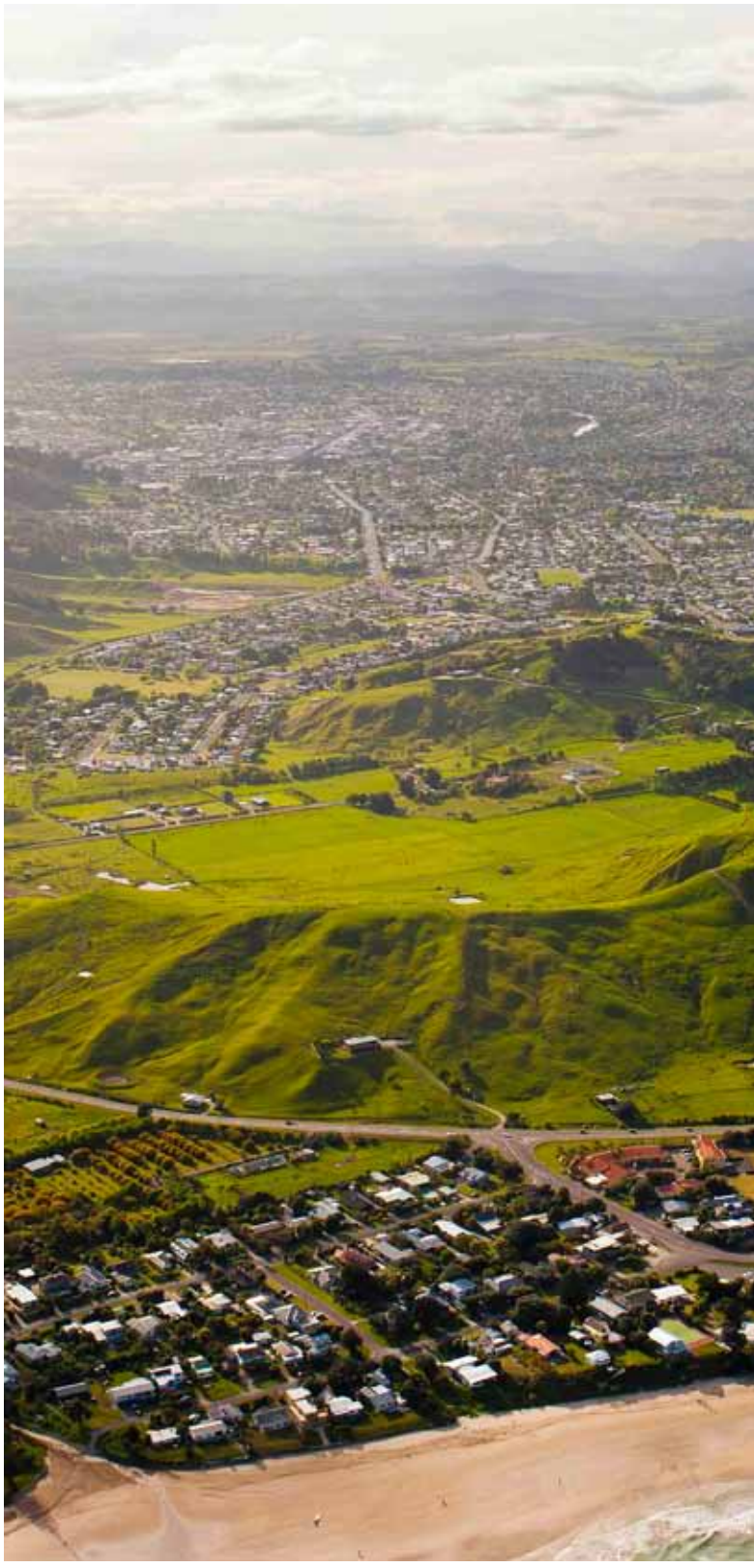
Table 2 shows the population data for the suburbs in Gisborne City and the projected increases. The suburbs with the highest projected population increase are situated close to the CBD, or in locations that offer opportunities to live alongside desirable lifestyle and recreation opportunities, and high amenity locations, such as the beach or river.

Table 3 shows the population increases and projections for rural townships in Tairawhiti. Most rural areas are showing a decrease in population, a pattern which has been occurring since the late 1960s. Prior to the 1960's, rural townships hosted thriving populations and community hubs and provided employment opportunities. Economic downturn in the late 1960's led to urban drift, migration to the town centres. (GDC, 2019).

Table 3 shows that the areas projected to experience growth are situated close to the outer Gisborne CBD suburbs. Figure 2 shows the how the rural areas have been combined based for population estimates.

Table 3: Gisborne rural population estimates and projections

Area	2018	2048	Change
Makaraka-Matokitoki			
	1,750	2,355	+605
Tarndale-Rakauroa-Te Karaka	1,995	1,650	-345
Tiniroto-Patutahi-Manutuke	2,980	2,975	-5
Tokomaru Bay-Ruatoria-East Cape	3,780	2,990	-790



HOUSING

Market trends

Gisborne CBD and surrounding suburbs are experiencing increases in house prices. Between the months of April 2018 to March 2019 house prices rose by 14.7% to a median of $358,000. There has also been an increase in sales over $1 million. The rise in house prices is presumed to be due to an increase in the number of people moving to the region from other areas of New Zealand, seeking lower house prices and lifestyle opportunities (REINZ, 2019). This has led to a shortage of affordable housing, with around two thirds of demand for housing falling in the $440,000 and below band (Erasmus et al, 2019).

There is currently a rental market shortage, as well as an increase in the average weekly rent amount, $100 between 2013 and 2018. The average weekly rent in 2018 was $302. As of June 2019, Gisborne and Hawkes Bay (jointly the East Coast area) have 959 applicants on the Housing Register, up from 851 in the previous quarter (Ministry of Housing and Urban Development, 2019).

Household size, numbers and composition

Previous figures showing household numbers across Tairawhiti have shown an increase of 450 over five years. Table 3 shows the projected trend in household size and numbers related to anticipated population growth. (Erasmus et al, 2019).

Table 4: Population, Household and average household size

Year	Population	Households	Household Size
2013	47,000	16,905	2.78
2018	47,900	17,360	2.76
2021	48,600	17,790	2.73
2033	50,115	18,660	2.69
2043	52,065	19,480	2.67
2048	53,040	19,875	2.66

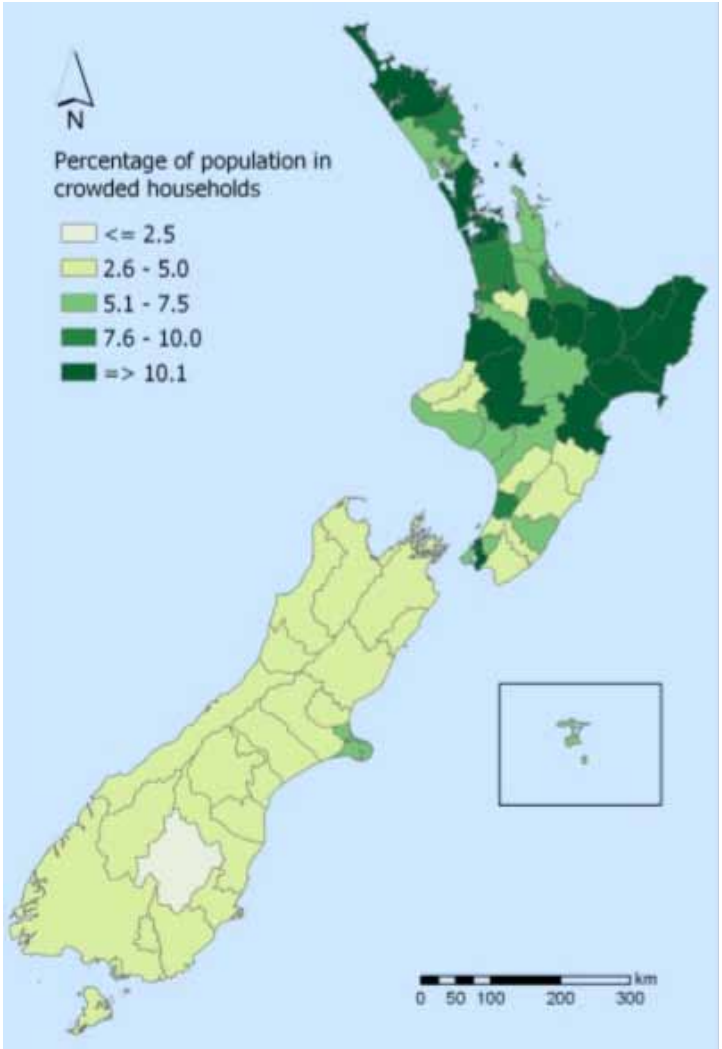
Source: Calculations based on .id, StatsNZ and M.E

By 2048, it is anticipated there will be 5,140 more people living in Tairawhiti, 2,565 additional households. The average household size is expected to decline from current levels down to 2.66 by 2048. This suggests that the number of households will grow faster than the number of people in the community. This relates both to the aging population, and to the shift of the household's composition, the shifting family structure. This is illustrated in Table 5.

Table 5: Composition of Households 2018-2048

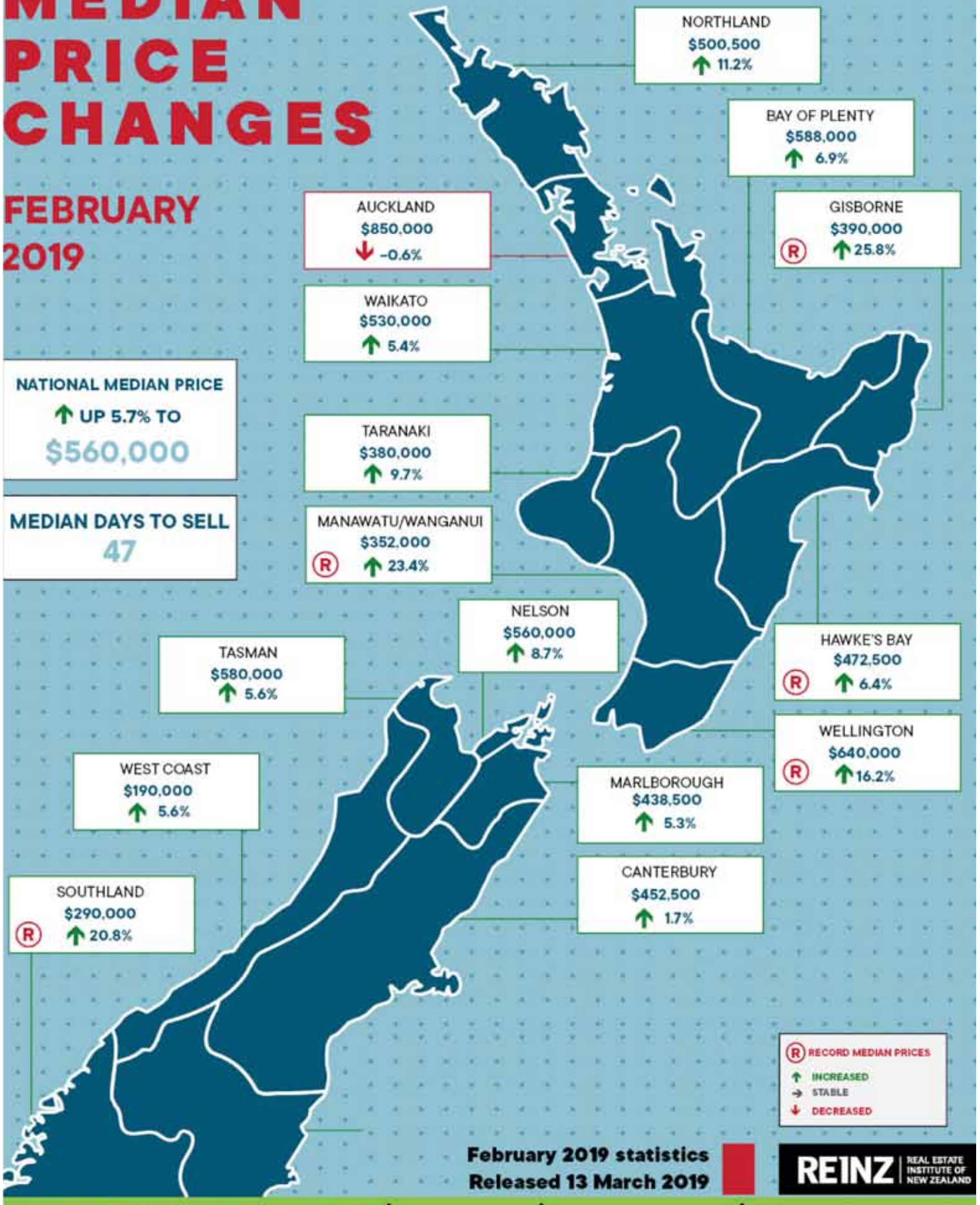
Household types	2018	2033	2048
Single person households	23%	26%	27%
Couples (no dependents)	24%	24%	24%
Two parent families	27%	25%	25%
Single parent family	18%	17%	17%
Multi-family households	3%	3%	3%
Non-family households	5%	5%	4%

The most important shift in housing composition evident in table 4 is the increase in number of single person households. This trend is consistent with an aging population, whereby single person households occupied by a resident over 65 years is expected to increase by 1,295 households. Compared to national trends, it seems that Tairawhiti is aging faster. This trend could be attributed to young people moving to the urban centres to study then not returning home (Erasmus et al, 2019).



ANNUAL MEDIAN PRICE CHANGES

FEBRUARY 2019



NATIONAL MEDIAN PRICE
↑ UP 5.7% TO
$560,000

MEDIAN DAYS TO SELL
47

NORTHLAND
$500,500
↑ 11.2%

BAY OF PLENTY
$588,000
↑ 6.9%

AUCKLAND
$850,000
↓ -0.6%

GISBORNE
$390,000
(R) ↑ 25.8%

WAIKATO
$530,000
↑ 5.4%

TARANAKI
$380,000
↑ 9.7%

MANAWATU/WANGANUI
$352,000
(R) ↑ 23.4%

NELSON
$560,000
↑ 8.7%

HAWKE'S BAY
$472,500
(R) ↑ 6.4%

TASMAN
$580,000
↑ 5.6%

WELLINGTON
$640,000
(R) ↑ 16.2%

WEST COAST
$190,000
↑ 5.6%

MARLBOROUGH
$438,500
↑ 5.3%

CANTERBURY
$452,500
↑ 1.7%

SOUTHLAND
$290,000
(R) ↑ 20.8%

(R) RECORD MEDIAN PRICES
↑ INCREASED
→ STABLE
↓ DECREASED

February 2019 statistics
Released 13 March 2019

REINZ REAL ESTATE INSTITUTE OF NEW ZEALAND

Spatial trends of households

Spatial development patterns are impacted by the way in which the mix of households in specific locations is anticipated to change. This is depicted in table 6.

Table 6 shows that the rural townships up the coast and inland will see a decline in household numbers corresponding with the projected population fall. Other rural townships located closer to the urban area and semi urban areas will experience growth, with around 475 households moving into those locations.

Housing condition

Housing condition and quality is reported in the BRANZ Housing Condition Survey, completed every three years. Since 1994 the survey has provided detail on physical property characteristics, maintenance and general living conditions. Since 2010 the survey has included rental houses and rural areas.

Both surveys conducted in 2012 and 2015 reported that rental housing in Tairawhiti was in worse condition than owner occupied housing, and that there was a higher incidence of components in poor or serious condition in rental housing. (Branz, 2012). The 2015 report found that rentals were twice as likely to be considered poorly maintained, however, that both owned and tenanted properties were both in a better state of repair than in 2010.

The results of the 2013 Census stated that 10% of people live in crowded conditions. Tairawhiti is the third highest region for overcrowded households in New Zealand after Counties Manukau and Auckland. Tairawhiti has recorded 15% of the population living in crowded conditions. Figure 3 illustrates this.

Children are over represented in crowded households. Crowded housing conditions are likely to be the one of the main drivers of high rates of close contact diseases including tuberculosis, meningococcal disease, acute rheumatic fever, influenza, and middle ear infections. ((Environmental Health Indicators New Zealand, Jan, 2018). Approximately 10% of hospital admissions per year for diseases that can be attributed to household crowding. (Johnson et Al, 2018)

In 2015 New Zealand signed up to the United Nations Sustainable Development Goals. Target 11.1 states, "Make Cities and human settlements safe, resilient and sustainable: by 2030, ensure access for all to adequate safe and affordable housing and basic services and upgrade slums". (Mosley, 2018).

Table 6: Change in household type by location

Change 2018- 2048	Type of area	Single person households	Couples (no dependents)	Two parent families	Single parent family	Multi-family households	Non-family household	Total Change
Tokomaru Bay - Ruatoria - East Cape	Rural (Incl. Ruatoria)	25	-5	-40	-25	-2	-4	-51
Tarndale - Rakauroa - Te Karaka	Rural (Incl. Te Karaka)	-5	-31	-54	-14	-6	-	-110
Wharekaka - Tolaga Bay	Rural (Incl. Tolaga Bay)	55	15	25	5	10	-1	109
Makaraka - Matokitoki	Rural	70	110	55	15	-	5	255
Tiniroto - Patutahi - Manutuke	Rural	35	-9	-9	15	-2	-5	25
Wainui - Okitu	Semi-urban (Coastal strip)	135	105	15	5	-	5	265
Gisborne Airport - Awapuni	Urban	40	10	-3	5	-1	-	51
Te Hapara	Urban	85	30	15	10	-	5	145
Gisborne Central	Urban	185	85	60	55	5	15	405
Riverdale	Urban	230	245	120	35	10	15	655
Mangapapa	Urban	100	55	10	15	-	5	185
Whataupoko	Urban	105	60	15	-	-3	5	182
Kaiti North	Urban	70	40	-2	-8	-	5	105
Kaiti South	Urban	105	45	20	20	5	5	200
Tamarau	Urban	40	30	10	10	-	5	95
Gisborne District		**1,275**	**785**	**237**	**143**	**16**	**60**	

Central Business District

Gisborne's CBD features a grid style roading layout, centred on the Gladstone Road spine, the main street. CBD limits extend to Roebuck road in the west through to the Turanganui River to the east. Taruheru River provides the northern boundary and Waikanae Beach provides the southern boundary. Gisborne's CBD is considered large per head of population compared to other urban areas in New Zealand (Barker and Associates, 2019). The area defined as the CBD for the purposes of this plan is shown in Figure 4.

The City Centre has many natural and built assets and value, including heritage buildings, an extensive waterfront and sandy beach coastline, green open spaces, a warm and sunny climate, and a rich cultural history. Together these provide a unique point of difference for Gisborne, which has the potential to attract investment whilst supporting and enhancing the daily social, cultural and economic needs of its residents.

Over the past 5-years, Gisborne has made significant steps forward with the regeneration on of the City Centre and surrounding urban area through successful interventions such as the Urban Cycleways programme, Oneroa Walkway, Tairāwhiti Navigations Projects, Inner harbour upgrades, Titirangi Restoration and redevelopment of vital community facilities such as the HB Williams Memorial Library and War Memorial Theatre, and Lawson Field Theatre.

Within the surrounding urban area to the CBD are key destinations for locals and visitors, Midway Beach, Olympic Pool, Soundshell Theatre, and well utilized parks and open space and sports facilities.

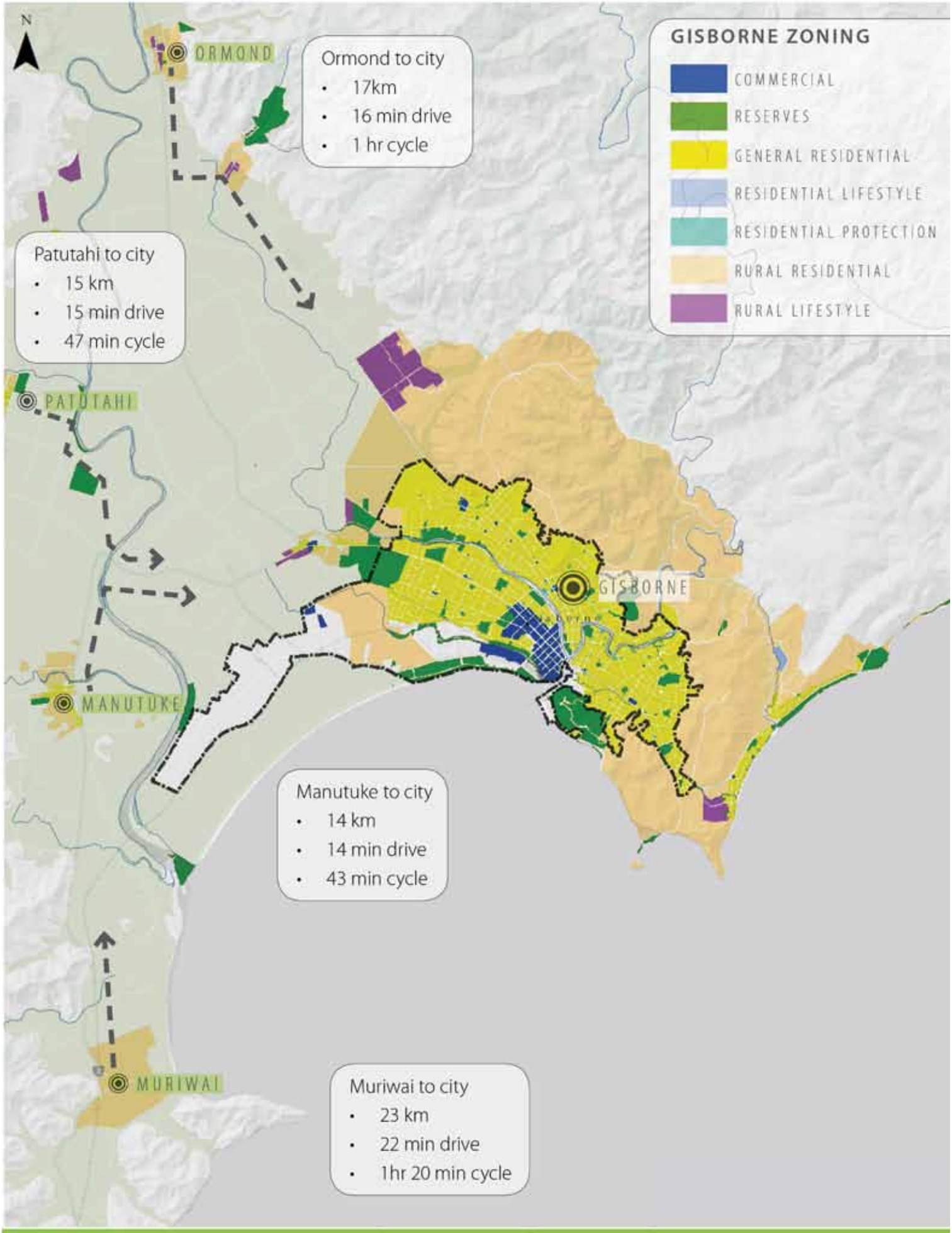
Connections to these areas adjacent to the CBD is integral to the future function of the CBD enhancement, and for increasing vibrancy of the urban centre.

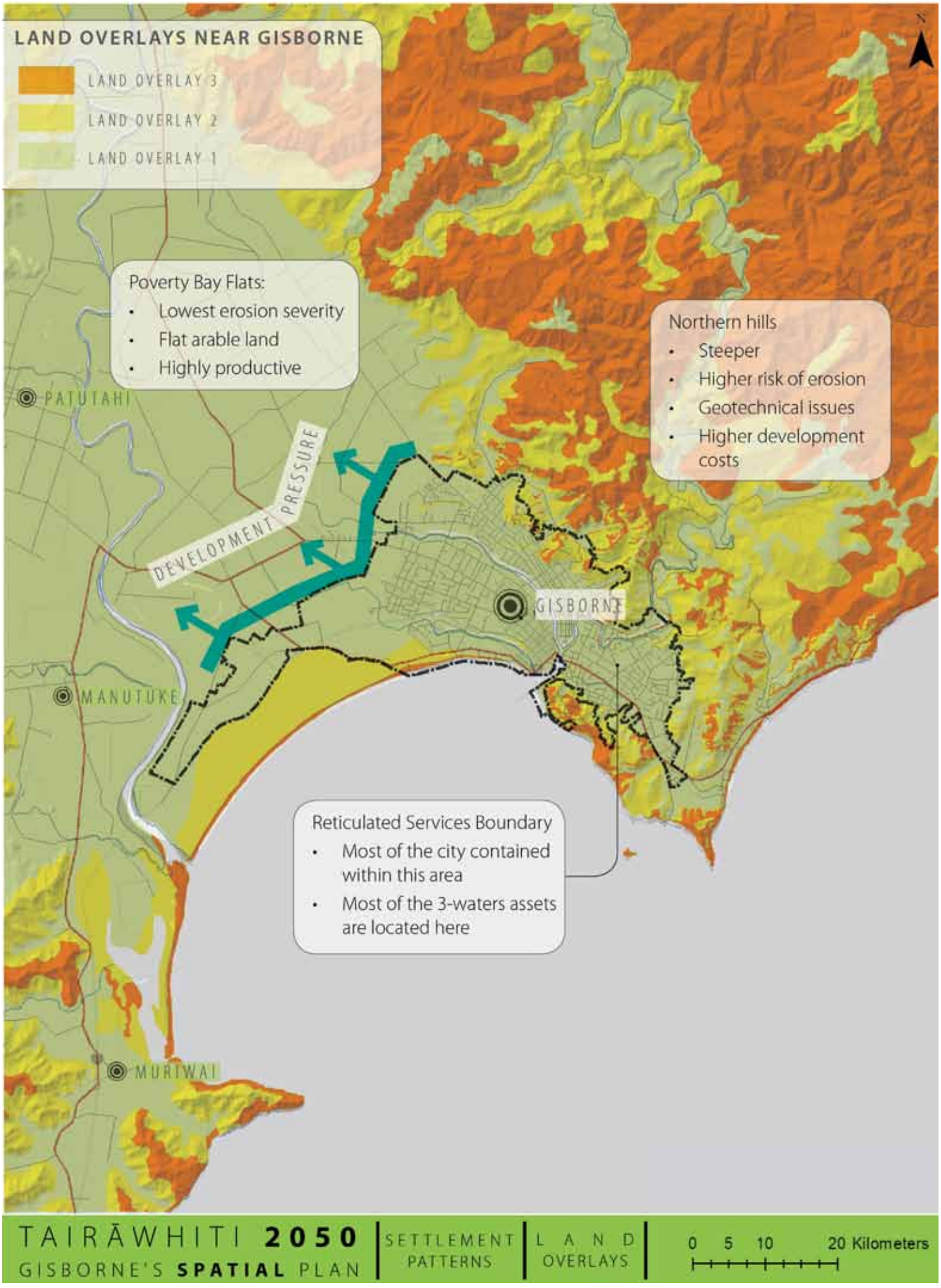
There are issues that have been identified with the current amenity value and function of the urban centre. These are:

- Lack of connection of the CBD to significant landscape features and destinations in the immediate area, such as Turanganui River and associated open space, Inner Harbour, Titirangi Maunga, Waikanae Beach.
- The retail section of the CBD spans a wide area, and is not pedestrian friendly nor does it provide for a pleasant pedestrian experience.
- There is a small amount of employees and residents in the CBD to support and bring vibrancy to the retail and recreational/entertainment activity in the CBD.
- Lack of vision for how the CBD should function and look into the future.
- There is a lack of cohesion between residential areas and CBD retail/entertainment sector, and significant landscape features and destinations described above. These areas are divided by wide road with abundant parking spaces, industrial and semi industrial land uses and big box retail.

(Barker and Associates, 2019).

Figure 4: CBD defined boundaries


N
ORMOND
Ormond to city
• 17km
• 16 min drive
• 1 hr cycle
GISBORNE ZONING
COMMERCIAL
RESERVES
GENERAL RESIDENTIAL
RESIDENTIAL LIFESTYLE
RESIDENTIAL PROTECTION
RURAL RESIDENTIAL
RURAL LIFESTYLE
Patutahi to city
• 15 km
• 15 min drive
• 47 min cycle
PATUTAHI
GISBORNE
MANUTUKE
Manutuke to city
• 14 km
• 14 min drive
• 43 min cycle
MURIWAI
Muriwai to city
• 23 km
• 22 min drive
• 1hr 20 min cycle
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
SETTLEMENT PATTERNS
GISBORNE ZONING
0 5 10 20 Kilometers


LAND OVERLAYS NEAR GISBORNE
LAND OVERLAY 3
LAND OVERLAY 2
LAND OVERLAY 1
Poverty Bay Flats:
• Lowest erosion severity
• Flat arable land
• Highly productive
Northern hills
• Steeper
• Higher risk of erosion
• Geotechnical issues
• Higher development costs
PATUTAHI
DEVELOPMENT PRESSURE
GISBORNE
MANUTUKE
Reticulated Services Boundary
• Most of the city contained within this area
• Most of the 3-waters assets are located here
MURIWAI
N
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
SETTLEMENT PATTERNS
LAND OVERLAYS
0 5 10 20 Kilometers

RURAL TOWNSHIPS

Economic downturn in the late 1960's in the rural townships saw a decline in population and urban drift, where a large number of people migrated to the urban centres. (Gisborne District Council, 2019) There is a general trend that suggests populations are continuing to decrease across the rural townships (Erasmus et al, 2019). Over time, population decrease has led to the closure of local businesses and the vibrancy of the town centres of the rural townships diminishing.

Each township has a distinct local identity with strong and passionate community champions, rich cultural heritage values, landscape values and many tourist attractions.

Council has committed to the preparation of township planning and upgrades, for specific rural communities through the LTP. Through the township plan process, Council works closely with communities to capture aspirations for their place. Aspirations are translated into on the ground implementation projects to be delivered in the long or short term. Intended to guide Council in the development and planning of our rural towns, township planning recognises that rural towns benefit and contribute to Tairawhiti. (Gisborne District Council, 2019).

POLICY FRAMEWORK

The policy framework guiding settlement patterns can be divided into national and regional aspects.

National Policy Direction

The Resource Management Act 1991

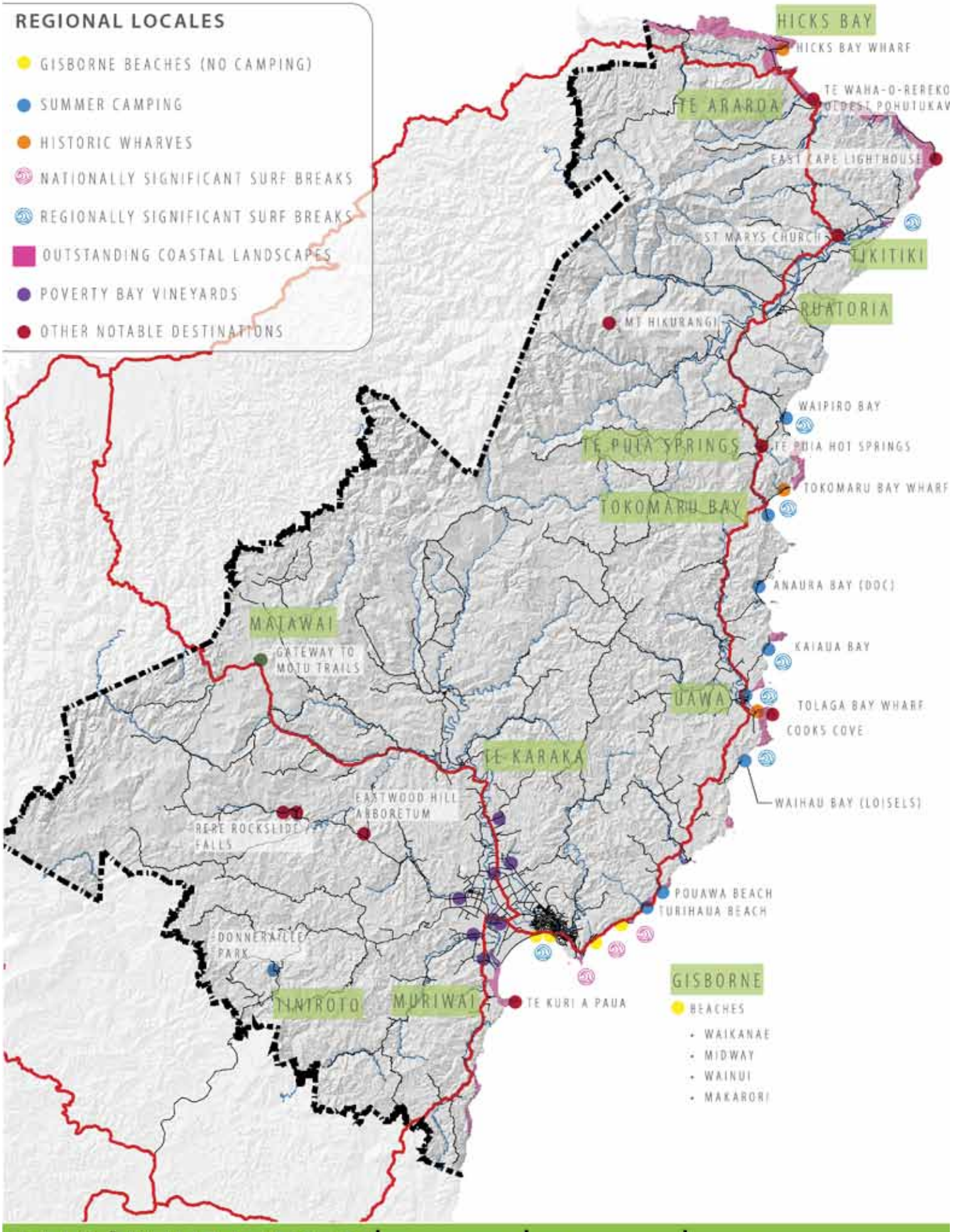
The RMA provides the overarching direction to ensure development occurs in a way that sustainably manages natural and physical resources. Councils must recognise and provide for Section 6-Matters of National Importance, have particular regard to Section 7-Other Matters and take into account the Principles of the Treaty of Waitangi. Local authorities must develop regional, district or unitary plans to meet the requirements of the Act (Environment Guide, 2018).

National Policy Statement for Urban Development Capacity 2016

The purpose of the NPS-UDC is to direct local authorities to provide sufficient development capacity in resource management planning that is supported by infrastructure to meet residential and business needs into the future (Ministry for the Environment, 2019a). Tairawhiti was classified as a medium growth region and therefore was required to complete a Housing and Business Assessment to investigate the supply and demand of residential and business land in the region.

The government is currently seeking feedback on a new NPS, the NPS for Urban Development that will supersede NPS-UDC. It will go further to ensure urban development outcomes are met. It will focus on four key areas:

1. Future Development Strategy – requires councils to carry out long-term planning to accommodate growth and ensure well-functioning cities.
2. Making room for growth in RMA plans – requires councils to allow for growth 'up' and 'out' in a way that contributes to a quality urban environment, and to ensure their rules do not unnecessarily constrain growth.
3. Evidence for good decision-making – requires councils to develop, monitor and maintain an evidence base about demand, supply and prices for housing and land, to inform their planning decisions.
4. Processes for engaging on planning – ensures council planning is aligned and coordinated across urban areas, and issues of concern to iwi and hapū are taken into account (Ministry for the Environment, 2019c)


REGIONAL LOCALES
GISBORNE BEACHES (NO CAMPING)
SUMMER CAMPING
HISTORIC WHARVES
NATIONALLY SIGNIFICANT SURF BREAKS
REGIONALLY SIGNIFICANT SURF BREAKS
OUTSTANDING COASTAL LANDSCAPES
POVERTY BAY VINEYARDS
OTHER NOTABLE DESTINATIONS
HICKS BAY
HICKS BAY WHARF
TE ARARDA
TE WAHA-O-REREKO
OLDEST POHUTUKAW
EAST CAPE LIGHTHOUSE
ST MARYS CHURCH
TIKITIKI
RUATORIA
MT HIKURANGI
WAIPIRO BAY
TE PUIA SPRINGS
TE PUIA HOT SPRINGS
TOKOMARU BAY WHARF
TOKOMARU BAY
ANAURA BAY (DOC)
MAIAWAI
GATEWAY TO MOTU TRAILS
KAIAUA BAY
UAWA
TOLAGA BAY WHARF
COOKS COVE
TE KARAKA
EASTWOOD HILL ARBORETUM
RERE ROCKSLIDE & FALLS
WAIHAU BAY (LOISELS)
POUAWA BEACH
TURIHAUA BEACH
DONNERAILLE PARK
TUNITOTO
MURIWAI
TE KURI A PAUA
GISBORNE
BEACHES
WAIKANAE
MIDWAY
WAINUI
MAKARORI
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
SETTLEMENT PATTERNS
REGIONAL LOCALES
0 5 10 20 Kilometers

The government is also seeking feedback on the National Policy Statement for Highly Productive Land. The purpose of this direction will be to provide councils with a clearer framework for managing highly productive soils, such as the Turanga Flats, so that this resource can be managed and tradeoffs can be assessed between competing land uses including urban expansion and rural lifestyle development (Ministry for Primary Industries, 2019).

Te Ture Whenua Maori Act 1993

This act:

- Promotes the retention of land in the hands of its owners, their whanau, and their hapū, and to protect wahi tapu
- Facilitates the occupation, development, and utilisation of that land for the benefit of its owners, their whanau, and their hapū (Te Ture Whenua Maori Act 1993)

The Building Act 2004

This Act ensures:

- people can use buildings safely and without endangering their health.
- buildings have attributes that contribute appropriately to the health, physical independence and wellbeing of the people who use them.
- people who use a building can escape from the building if it is on fire.
- buildings are designed, constructed and able to be used in ways that promote sustainable development (Ministry for Business, Innovation and Employment, n.d).

And, the associated *Building Code* which sets clear expectations of the standards buildings should meet. Such as structural stability, fire safety, access, moisture control, durability, services and facilities, and energy efficiency (Ministry for Business, Innovation and Employment, 2016).

Kāinga Ora – Homes and Communities- a Crown agency that is currently being developed to:

- act as a public landlord managing tenancies across New Zealand.
- lead small and large-scale urban development projects in partnership w other agencies, local government, iwi and Māori and private partners (Ministry for the Environment, 2019b).

Regional Policy Direction

The Tairawhiti Resource Management Plan 2018

This covers all our resource management plans, including the district plan, regional policy statement, regional coastal plan, regional plans and Freshwater Plan .The plan provides the methods and rules for the region in order to achieve the purpose of the Resource Management Act-the promotion of the sustainable management of natural and physical resources (Gisborne District Council, 2018c).

Long Term Plan 2018-2028

The Long Term Plan outlines the need for access to quality public aquatic facilities in the region. The most likely option to remedy this issue is to undertake major upgrades to the current Olympic Pool Complex. The new facility would include an enclosed multi use 50 m pool, learn to swim facility, replacement of the hydrotherapy pool, upgrading recreational facilities and improving changing rooms and spectator area. The goal of this upgrade is to improve the recreation experience and improve regional pool safety.

Another issue raised in the Long Term Plan is the need to fill a gap in provision of publicly available indoor sports court facilities. The most likely scenario identifies is that several parties collaborate to build a regional level three court indoor facility (Gisborne District Council. 2018a).

The Urban Development Strategy 2015

This strategy is influenced by the needs of the community and sets a vision for how the urban area might best evolve over the next 30 years. It is through the key activities of land and transport planning and the creation and maintenance of attractive and creative public spaces that Council seeks to influence the shape of the urban area and continue to support sustainable development in Tairawhiti. The 2015-2020 strategy has three key priorities: The protection of the elite soils of the Poverty Bay Flats; reorientation of the city to strengthen its connection to the coast and rivers; and providing integrated and efficient core infrastructure (Gisborne District Council, 2015).

Gisborne City Centre Spatial Framework 2019

This framework has analyzed the CBD in its current form and has suggested a series of key moves to reinvigorate the City Centre.

Community Facilities Strategy 2018

This is an integrated body of work that outlines the development of a cost-effective and sustainable network of fit-for purpose community facilities in Tairawhiti over the next 20+ years.

The vision is that Tairawhiti-Gisborne is the lifestyle destination of choice. We have a range of affordable and accessible ways to relax, be active, connect with each other and share our culture. We have safe spaces to play, learn and thrive and we are healthy and well.

The strategic direction is to have a network of community facilities across Tairawhiti-Gisborne that:

- is built on demonstrated community need and is fit for purpose.
- enables community health and wellbeing à is flexible and future-proof and used to maximum potential
- is accessible and welcoming and reflects who we are.

To ensure that our network of community facilities is financially sustainable meaning it is:

- value for money.
- affordable for the community and end users.
- well-planned.
- prioritized in an integrated, transparent and robust way.
- to collaborate in planning and providing community facilities

There are a suite of plans included in this strategy which are:

- Aquatic facilities plan
- Art in public places plan
- Arts facilities plan
- Cemeteries plan
- Parks and open spaces plan
- Play spaces plan
- Public conveniences plan
- Sports facilities plan
- Street trees and gardens plan (Gisborne District Council, 2018b)

What have our communities told us in the past?

- Want equal opportunities throughout the region (i.e.internet, schooling and lifestyle).
- Levels of service, maintenance and provision of council provided assets to be consistent throughout the region.
- City should not encroach on Turanga Flat's highly productive soils.
- CBD lacks vibrancy and identity.
- Council needs to enable the good things.
- Ruatoria – further investment in walk and cycleways, weed and pest management within reserves, restoration of river bank, development of Puawaitanga Park to a destination playground for the coast.
- Te Puia Springs – clean and beautify lake area and develop local heritage trail, investigate reopening of hot springs as tourist activity, provision of skate park and children's play space.
- Tikitiki/Rangitukia – build on new playground investment with supporting facilities, Paikea heritage walkway to Te Araroa Lighthouse, footpath renewals at Tikitiki town Centre, complete footpath connections to community spaces, streetlights to local roads.
- Te Araroa - skate park is well used but needs maintenance investment, playground is in need of renewal, public convenience need to be relocated away from the coastal zone.
- Wharekahika – support ongoing work that has been undertaken with the community in developing a new open space area to accommodate public convenience, new playspace area and BBQ area, continue works investigating feasibility in restoring the Wharekahika wharf.
- Tokomaru Bay – improve toilet facilities, heritage promotion, native tree planting, wharf redevelopment.
- Tolaga Bay – continue foreshore enhancement and Uawa / Tolaga Bay walkway link project

What have iwi told us in the past?

- Need to better facilitate papakainga development.

Work currently underway

- Implementation of community facilities strategy.
- Planning for Olympic Pool Complex upgrade.
- Township planning and implementation.
- Responding to national direction under the RMA.

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THRIVING ECONOMY

ECONOMIC OVERVIEW

The GDP of Tairawhiti is just over $2 billion (Statistics New Zealand, 2019) - 0.7% New Zealand's GDP. It is projected that the regional value add (GDP minus indirect taxes) could increase to $2.3 billion by 2048 (McIlrath, Erasmus, & Fairgray, 2019).

Activate Tairawhiti

Activate Tairawhiti is the region's economic development agency. In 2016, the organisation launched the regional brand: Tairawhiti Gisborne-The First Light and associated website www.thefirstlight.co.nz outlining information about living in, visiting and doing business in Tairawhiti. The messaging is that Tairawhiti is the best place to live, work and play which is promoted in the 2017 Economic Action Plan.

The Tairawhiti Economic Action Plan/Te Huarahi Hei Whai Oranga was developed in 2017 by Activate Tairawhiti and set out a vision for 2022. The focus of this plan was to:

- Tap into value add potential for primary industries
- Promote Tairawhiti as a great place to live and visit
- Connect with people and markets through reliable transport and digital networks
- Build capacity to support business development, growth and capital investment

The success of the plan would mean that in 2022 the region could benefit from:

- $68.6 million in capital investment
- 20% increase in regional GDP
- 25% increase in processing and value added production
- 1,260 new jobs created, halving the unemployment rate
- 250 people off benefits into permanent employment and $3 million reduction in benefit spend (Activate Tairawhiti, 2017)

This plan is currently being refreshed by Activate Tairawhiti, with a new version expected to be release in the latter half of 2019. This version will also incorporate the findings from the Maori Economic Development report.

Tairawhiti Maori Economic Development Report

This report outlined economic opportunities for Tairawhiti Maori, whanau, hapu and iwi.

After extensive consultation, three key areas of discussion or 'clusters' were identified, showing areas that were significant to economic development. These were:

Cluster 1: People Development

- Building capacity
- Cultural competence
- Education and training
- Collaboration

Cluster 2: Four Major Projects

- Agriculture and horticulture
- Cultural tourism
- Information technology and fibre connectivity
- Apiculture

Cluster 3: Entrepreneurship and Innovation

- Better Maori land utilisation
- Investment in seeding cottage industry
- Some communities feel excluded from regional development
- Creation of work opportunities outside of Gisborne city
- Small businesses needing to be deliberately and meaningfully supported
- Looking at models from elsewhere to adapt
- Tri-partite relationships (Maori businesses, wānanga and universities, government funding initiatives) (Smith, Gillies, Wiremu, Mika and Puketapu-Watson, 2017).

Labour Force and Employment Opportunities

Evidence

In 2018 6.4% of our population was unemployed (Ministry of Business, Innovation and Employment, 2019). 2013 figures show Maori unemployment was 16.1% in 2013 (Statistics New Zealand, 2013). Of the 15-24 year old in the region, 19.7% were not in employment, education or training in 2018/2019 (Ministry of Business, Innovation and Employment, 2019).

Over the past 17 years, our regional economy added 1,205 jobs, representing a percentage increase of 5.5%. Over the same period, New Zealand's employment expanded by 28% (1.5% compound annual growth).

Increases in employment occurred mostly in the knowledge economy and local business service sectors including:

- Administration and support services +485 people (208 of which associated with packaging services for agriculture and food production)
- Professional, scientific and technical services +470 people
- Information media and telecommunications +65 people

In 2017 Tairawhiti had 4,578 business locations and 19,960 paid employees. Most of our population work as either labourers or professionals. Agriculture, forestry and fishing employ 22.40% of our population; 4,470 people are employed by this sector region wide.

Other large sectors include:

- Health care and social assistance (2,653 workers)
- Professional, scientific, technical, administrative and support services (2,123 workers)
- Education and training (2,103 workers).

By 2048, the largest sectors are expected to be:

- Agriculture, forestry and fishing support services (3,080 jobs; +84% from 2018)
- Sheep, beef cattle and grain farming (2,730 jobs; +10%)
- Professional, scientific, technical, administrative and support services (2,710 workers; +15% from 2018)

A 2016 report on future workforce requirements for the region suggested that by 2026 an additional 3,500 to 5,000 people would be required to work in the six sectors (and flow on/service sectors) of:

- Horticulture production/processing
- Forestry/wood products
- Engineering
- Trucking/transport
- Tourism (Bevin, 2016)

However, a 2019 report suggested of the projected population growth (around 5,000 people by 2048), the traditional labour force numbers are projected to only increase by just over 1000 people. By 2048, it is projected we will have an extra 1,270 jobs that need filled (McIlrath, Erasmus, & Fairgray).

The region's key rural production and processing/manufacturing sectors, and supporting sectors plus tourism/hospitality and a range of other service sectors are seeing a general trend of increasing employment opportunities growth

Sectors that are projected to experience the largest growth include transport, machinery and equipment manufacturing as well as professional, technical and administrative services. (Bevin, 2016)

Implications

Labour availability is one of the most challenges for economic development in Tairawhiti. While the region is already constrained by labour shortages, the pressure is expected to become even greater looking forward. As the traditional labour force in Gisborne is expected to grow at a slower rate compared to total population growth, interventions are required to ensure economic development can be unlocked. Making the 'best use' of available labour will be critical to capture Tairāwhiti's full potential (McIlrath, Erasmus, & Fairgray, 2019).

There is capacity within the working age population of Tairawhiti. For example,

- upskilling of existing employees;
- use of part-time employees and seasonal workers;
- utilisation of young people (i.e. both numbers and talent identification) 'not in education/training/employment' and those unemployed or jobless.
- promoting the region to skilled
- increased levels of educational achievement and skill development will be important aspects of future workforce growth and development in the region. This would lead to higher income opportunities in the future,

Business size

The average size of Tairawhiti businesses decreased from 5.1 to 4.6 employees per business. The largest number of employees in 2017 were on average in the sectors of:

- manufacturing (13.7)
- information Media and Telecommunications (13.4)
- public Administration and Safety (12.5)
- education and Training (12.4)
- health Care and Social Assistance (14.1)

Comparative advantages

Sectors that have had a sizable comparative advantage since 2000 are:

- Horticulture and fruit growing
- Sheep, beef cattle and grain farming
- Poultry, deer and other livestock farming
- Forestry and logging:
- Fishing and aquaculture
- Agriculture, forestry and fishing support services
- Dairy product manufacturing
- Beverage and tobacco product manufacturing
- Wood product manufacturing

Sectors underrepresented in the economy and that we currently do not have a comparative advantage in are:

- Insurance and Superannuation funds
- Air and space transport
- Transport equipment manufacturing
- Knowledge sectors are also under represented and include:
  - information media and telecommunications
  - finance
  - auxiliary finance and insurance services
  - professional, scientific, technical, administrative and support services.

Sector	Av MEC/business			Range		
	2000	2017	Trend	Min	Average	Max
Agriculture, Forestry and Fishing	4.2	3.8	→	3.4	3.8	4.2
Mining	4.0	2.6	↓	2.3	4.0	5.6
Manufacturing	11.4	13.7	↑	10.9	12.9	14.8
Electricity, Gas, Water and Waste Services	6.6	5.2	→	3.0	5.2	6.9
Construction	4.2	3.4	→	3.4	3.9	4.5
Wholesale Trade	5.0	4.7	→	3.7	4.6	5.8
Retail Trade	6.4	7.1	↑	6.4	6.7	7.1
Accommodation and Food Services	7.3	6.8	→	5.6	7.1	7.9
Transport, Postal and Warehousing	6.0	5.7	→	4.8	5.4	6.4
Information Media and Telecommunications	11.6	13.4	↑	7.3	12.2	16.3
Financial and Insurance Services	2.4	0.8	↓	0.8	1.6	2.7
Rental, Hiring and Real Estate Services	0.9	0.5	↓	0.4	0.5	0.9
Professional, Scientific and Technical Services	4.4	4.5	→	4.0	4.6	5.3
Administrative and Support Services	6.3	9.1	↑	6.3	10.1	13.2
Public Administration and Safety	8.9	12.5	↑	8.9	11.3	13.2
Education and Training	12.0	12.4	→	11.6	12.4	13.8
Health Care and Social Assistance	12.9	14.1	↑	12.3	13.1	14.1
Arts and Recreation Services	3.1	3.9	↑	3.1	3.9	4.5
Other Services	3.4	3.1	→	3.0	3.3	3.9
Total	**5.1**	**4.6**	→	**4.5**	**4.8**	**5.3**

Average size of businesses

TOURISM

Tourism spend for Gisborne for year ending July 2019 was $165 million. This was up 4% on the previous year, on par with national tourism growth (MBIE, 2019). Hawkes Bay and Auckland regions are the largest domestic market for regional tourism and Australia and the United Kingdom are Tairawhiti's biggest international markets (MBIE, 2018).

Tairawhiti has many attractions for tourists including Maunga Hikurangi and Waka Voyagers which both have gold Qualmark accreditation (Qualmark, n.d.)

Rhythm and Vines is another significant tourism success story. The festival began in 2003 with a crowd of 1,800. In 2010, the festival grew to a sell-out 3 day festival with a crowd of 25,000 people. It won best event at the NZ Tourism Awards. There are reports of this event injecting around $12 million into the Tairawhiti economy.

Tairawhiti is well-known for its surfing, with three surf breaks listed as nationally significant in the New Zealand Coastal Policy Statement 2010. These are:

- Makorori Point – Centres
- Wainui – Stock Route – Pines – Whales
- The Island (Department of Conservation, 2010)

AGRICULTURE

Of the 839,000 hectares of land in the region, 42% is used for pastoral farming (Gisborne District Council, 2016).

The following table outlines the stock numbers in 1994 and 2016. Dairy cattle were the only livestock type reported on to increase over that period. As of March 2016, there were 5 dairy farms in the region (Gisborne District Council, 2016).

Livestock type	1994	2016
Dairy cattle	6,226	11,950
Beef cattle	351,384	243,273
Sheep	2,088,870	1,515,181
Deer	22,955	8,358

Source: Ministry for the Environment, 2018

Agriculture has been the most important industry in the Gisborne district since earliest settlement. However, agriculture has diversified over the years and now forestry, viticulture, horticulture and industries such as food processing are becoming increasingly important (Gisborne District Council, 2019)

HORTICULTURE

The food production capabilities of the region mean there are many opportunities to process and manufacture products within the region. Leader Brand, Cedenco and Corsons (the largest maize milling company in Australasia) have facilities in Gisborne (Activate Tairawhiti, n.d.)

Gisborne is one of the 4 main grape growing areas in New Zealand. The district with 1,724 hectares supports 90 local growers, 20 wineries, a large wine bottling plant, an internationally recognised wine and viticulture course at the EIT Polytechnic and one of New Zealand leading wine nurseries. The Gisborne area is known as the 'Chardonnay Capital' of New Zealand. The Wines of Gisborne Visitor Centre, centrally located in Gisborne's inner harbour is open 7 day a week for wine tasting and winery cellar door tour service.

Summer crop survey

Over the summer of 2018/2019 14,862.1 hectares were found to be used for summer cropping across the areas of (in order of largest to smallest cropping areas):

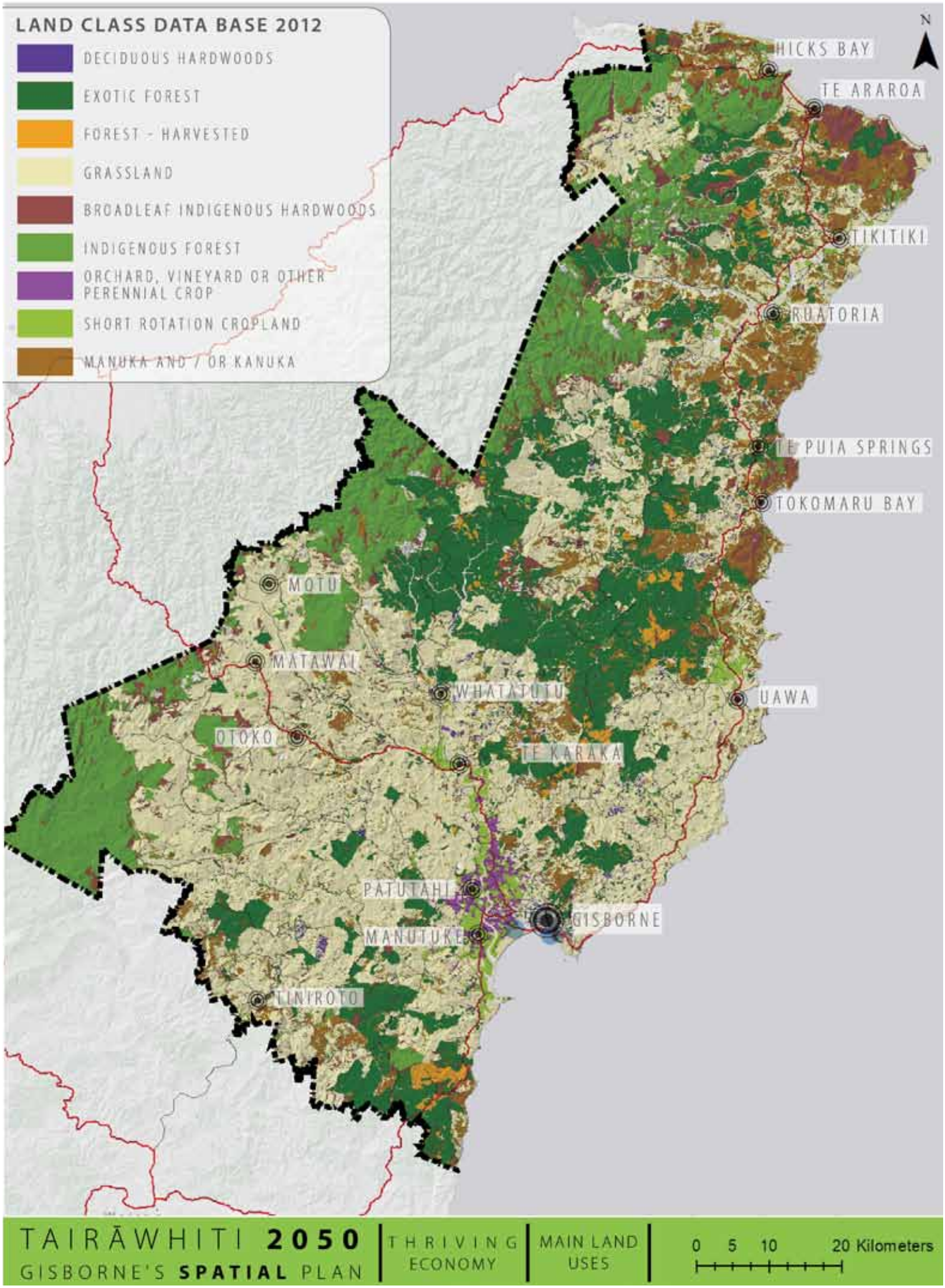
- Turanga/Poverty Bay Flats (14665.09ha)
- East/Tolaga/Tokomaru (2,063.2 ha)
- Te Karaka/Whatatutu (1,884.7 ha)
- East Cape/Ruatoria (708.2 ha)
- Motu/Matawai (149.1 ha)

Pasture and tilled land were excluded from this study but have approximate areas of 8,398.9ha and 696.9ha respectively.

Winter crop survey

The 2018 winter crop survey identified 1,756.9ha of land across the region was used for growing winter crops. Locations were:

- Turanga Flats (862.1)
- East Cape/Ruatoria(315.8)
- East/Tolaga/Tokomaru (284.2)
- Motu/Matawai (242)
- Tiniroto (132.4)
- Te Karaka/Whatatutu (71.9)


LAND CLASS DATA BASE 2012
DECIDUOUS HARDWOODS
EXOTIC FOREST
FOREST - HARVESTED
GRASSLAND
BROADLEAF INDIGENOUS HARDWOODS
INDIGENOUS FOREST
ORCHARD, VINEYARD OR OTHER PERENNIAL CROP
SHORT ROTATION CROPLAND
MANUKA AND / OR KANUKA
N
HICKS BAY
TE ARAROA
TIKITIKI
RUATORIA
TE PUIA SPRINGS
TOKOMARU BAY
MOTU
MATAWAI
WHATATUTU
UAWA
OTOKO
TE KARAKA
PATUTAHI
GISBORNE
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TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
THRIVING ECONOMY
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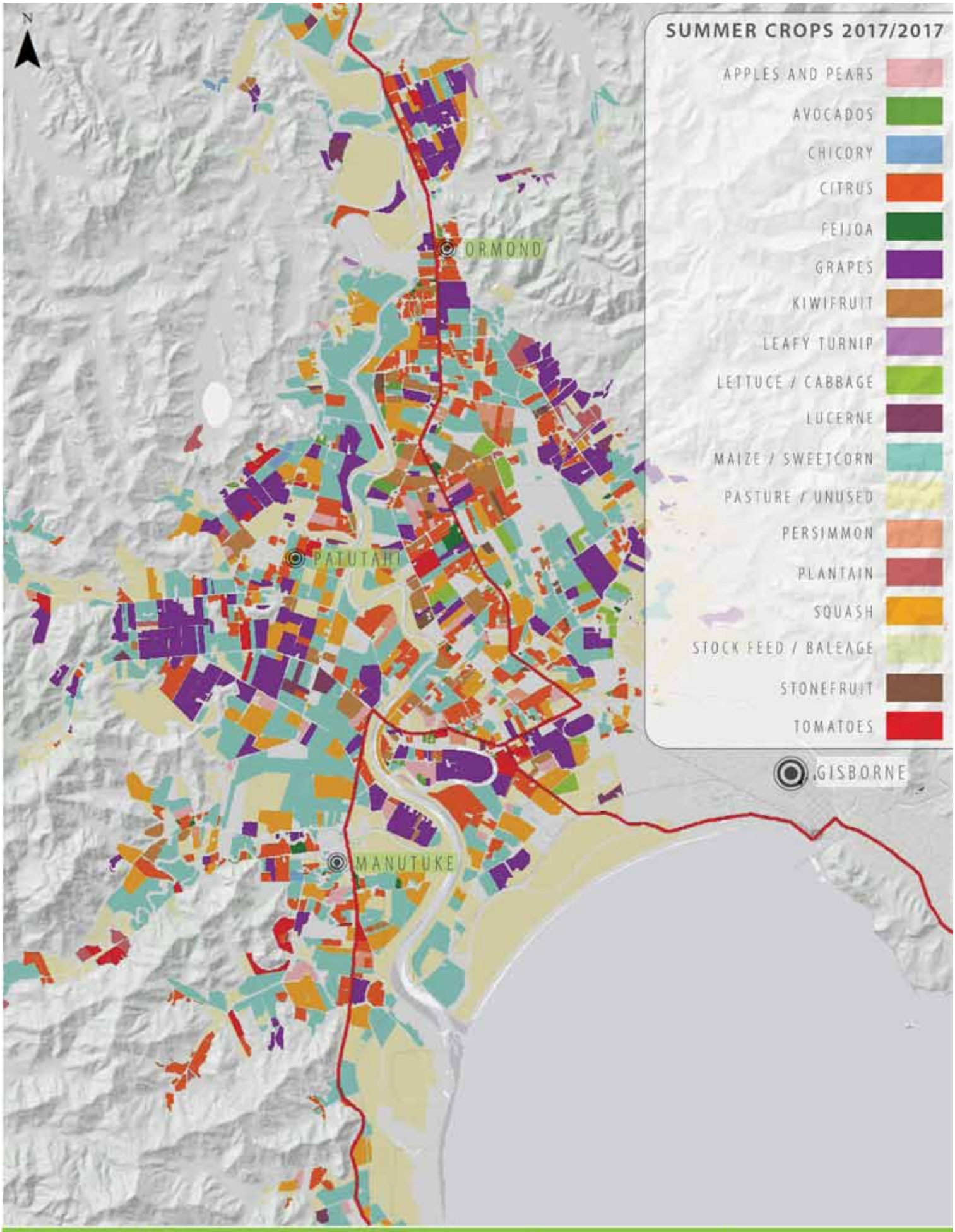


TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN | THRIVING ECONOMY | SUMMER CROPS

Total area (ha) of main 25 crop types identified in the 2018/19 Summer Crop Survey

Crop Type	Total area (ha)	Crop Type	Total area (ha)
Apple and Pear	343.0	Lettuce/Cabbage	144.9
Avocado	61.7	Lucerne	188.6
Baleage	92.7	Maize/Sweetcorn	6526.1
Cauliflower/Broccoli	65.1	Other	220.9
Chicory	304.8	Persimmon	113.5
Citrus	1513.2	Pine Nursery	48.8
Clover	151.6	Plantain	73.1
Feijoa	56.5	Plantain/Chicory	177.7
Fodder Beet	62.1	Plantain/Clover	99.5
Forage Rape	66.3	Squash	1805.7
Grape	1489.9	Stock Feed/Baleage	133.1
Kiwifruit	487.7	Tomatoes	209.0
Leafy Turnip	317.3	**TOTAL**	**14752.8**

Total area (ha) of crop types identified in the 2018 Winter Crop Survey

Crop Type	Total area (ha)	Number of sites	Crop Type	Total area (ha)	Number of sites
Barley	0	0	Lucerne Mix	6.1	1
Cauliflower/Broccoli	153.9	8	Lupin	0	0
Chicory	42.4	17	Maize Stalk*	1,490.7	129
Chicory Mix	36.7	7	Oats	6.4	3
Chicory/Plantain	163.6	31	Other	26.9	10
Clover	22.9	3	Pasture*	5,540.0	823
Clover Mix	0	0	Plantain	233.9	35
Fodder Beet	21.1	4	Plantain Mix	61.4	8
Forage Rape	134.2	17	Swede	0	0
Kale/Chou Moellier	147.7	20	Tilled land*	1514.3	147
Leafy Turnip	90.7	14	Turnip	3.34	1
Lettuce/Cabbage	1,57.9	11	Unknown	387.2	30
Lucerne	59.8	11	**TOTAL**	**10,302**	**1,330**

**excluded from the area of winter crops but used in analysis of water threat (section 3.4)*

Evidence

Exotic forest covers around 20% of the district (Gisborne District Council, 2015)

Plantation forestry began in Tairawhiti in the early 1960s (Eastland Wood Council, 2013). With an average harvest age of 28.6 years ((MAF, 2012) as referenced in (Eastland Wood Council, 2013)), the current forestry stock consists of replanted and new plantations. In 2012, approximately 50% of the plantation forestry in Gisborne was aged between 10 and 20 years ((MAF, 2012) as referenced in (Eastland Wood Council, 2013)) meaning that as of now and in the next decade, there is a large amount of forestry that is approaching harvest age (Eastland Wood Council, 2013). 154,149 ha of exotic forest is currently planted in the Tairawhiti region; 96.8% being radiata pine (Minstry for Primary Industries, 2017).

A significant amount of the exports from forestry are raw logs, however, the profit received for raw log exports is around $20/m3 (Activate Tairawhiti, 2017). In 2019, the price received for exporting logs to China decreased by more than 30% (Downs, 2019). Therefore, there is a significant regional effort to increase in-region processing of logs to increase value (Activate Tairawhiti (2017).

Forestry significantly contributes to regional employment at around 1600 FTEs or 10% of the regional workforce. This is broken down to:

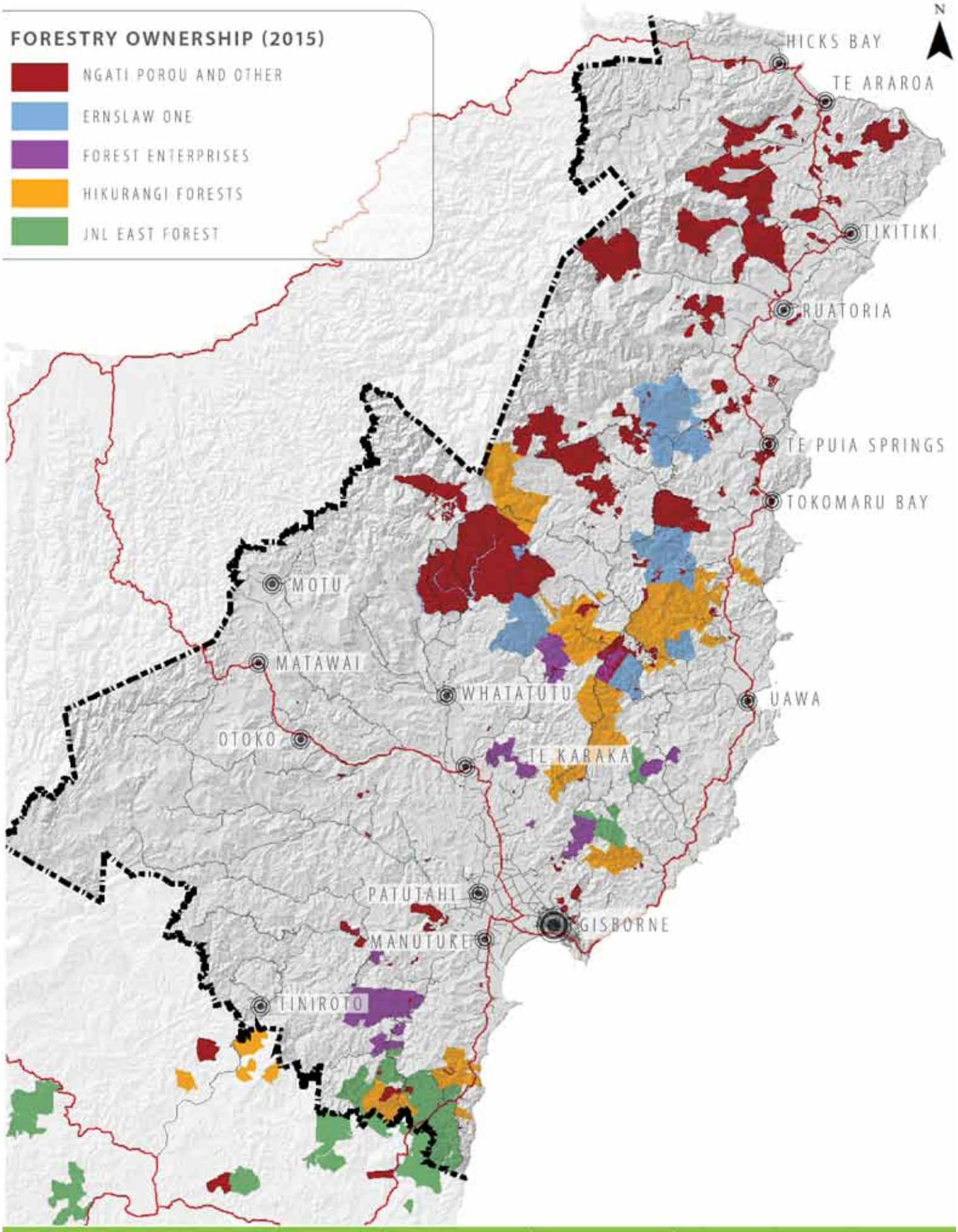
- 64% of workers are in the forests
- 20% in processing
- 9% in transport
- 5% at the Port (Gisborne District Council, 2016).

Large scale forestry owners are defined as those with 1000 ha of forest or more in the region of interest and; with more than three distinct age-classes and not a part of a syndicate (Ministry for Primary Industries, 2015). In Tairawhiti these owners are:

- Ernslaw One
- Hikurangi Forest Farms
- Juken New Zealand
- Mangatu Blocks Incorporation
- Crown Forestry
- Permanent Forests
- Tauwhareparae Farms
- Timbergrow (Ministry for Primary Industries, 2015).

Forestry industry economic forecasts from Tairawhiti Economic Action Plan 2017:

- $14.6m investment in wood processing is predicted to add (within 5 years) more than $30m p.a. in GDP and 80 extra jobs
- By 2022, an increase in 21% of wood processing locally to reach 25% in total. This is predicted to increase the value of forestry in Gisborne by 3-4 times meaning an additional $120m to regional GDP p.a.
- Volume of logs exported from Port Eastland is predicted to increase from 480,000 tonnes to 2.07 million tonnes by 2027
- By 2020 log harvest predicted to increase from 2017 figures of 2.6 million tonnes to 3.2 million tonnes
- The growth described above is expected to add 630 jobs
- TEAP predicts that this increase in harvest will be able to supply enough wood for a total of 3-4 wood processing mills in the region.
- Te Runanganui o Ngati Porou are working towards an East Coast Wood Logistics Solution which will explore options for a wood processing facility
- Work to date (Feb 2017)
  - Feasibility study for wood processing in Tairawhiti
  - Prime Site secured to be recommissioned as a timber mill
  - Commencement of pilot project at Prime Site
  - Applying for funding from Callaghan Innovation for proof of concept



TAIRĀWHITI **2050**
GISBORNE'S **SPATIAL** PLAN

THRIVING ECONOMY | TAIRĀWHITI FORESTRY

0 5 10 20 Kilometers

Waste Management Minimisation Plan 2018-2024

This plan sets out the intentions that the Council has for waste management and minimisation in the region so that we can benefit our community, economy and environment. This plan is a requirement for Council under the Waste Minimisation Act and has to cover several aspects such as considering the "waste hierarchy" and having regard to key government policies such as the NZ Waste Strategy

Targets outlined in the Waste Management Minimisation Plan:

- A 20% reduction in total waste sent to Class 1 landfills by 2024
- A 40% reduction in organic waste by 2024 (kerbside collections)
- A 20% increase in recycling by 2024

Regional issues:

- Geographical location impacts feasibility of some recycling schemes
- No council control over city transfer station
- Unknown amount of waste entering farm pits
- Large increase in wood bark generation likely
- Recycling level and trends: The amount of recycling diverted is declining.
- Organic waste: At 26% of the waste stream, food and green waste represent the largest fraction of material being landfilled. This is potentially the biggest opportunity to improve diversion.
- Transport and disposal of waste: The majority of waste is transported to the Tirohia Landfill (310km away). The future of the Councils Waiapu Landfill is also being reviewed. Working collaboratively with Wairoa Council on landfill disposal and management options.
- Cleanfills: The need to improve information received on the two operating Class 2 Landfills including the tonnage and type of materials accepted
- Data: There is room for improvement in the quality and management of data. Accessible, reliable consistent data enables better decision making.
- No Solid Waste Bylaw: Council does not have a Solid Waste Bylaw consequently limiting its ability to influence waste diversion through regulatory measures.
- Council Kerbside Collections: The need to maximise the efficiencies of the existing kerbside collections and ensure best health and safety practice.
- Refuse levels and trends: The amount of rubbish produced is increasing.
- Social Enterprise: The need to consider the viability of socio enterprise in recovering value from the waste stream and the ability to generate employment and youth development opportunities.

Waste Assessment 2017

Council was required under the Waste Minimisation Act to undertake a waste assessment prior to creating the WMMP. This assessment analyses the type of waste Tairawhiti creates and the process of management currently utilised.

Council is reliant on commercial operators to manage the waste in our region. We have a significant reliance on Waste Management Ltd as a contractor and don't have a plan B. It is difficult to influence private contractors to increase landfill diversion at resource recovery centres.

Households can opt to pay for a green waste wheelie bin collection service through Waste Management Ltd or drop their waste off at

-the cost of freighting waste to the Tirohia landfill could become prohibitive

-current kerbside collections heavily rely on manual handling which is a risk to the health and safety of contractors.

-lack of information about amount and type of rural waste that as currently unregulated disposal. Without data, effective solutions cannot be generated. There is also a need for better data flow between Waste Management Ltd and Council about the type and amounts of waste being collected at the kerbside and recovery centres.

Households have increasing expectation for the level of service provided for waste management. This is highlighted in the report as perhaps coming from residents moving to the region from urban centres with more effective systems. This could also be from the community becoming more aware of the environmental degradation caused by waste.

WasteMINZ National Food Waste Prevention Study

NZ households on average throw away 5% of the food they buy a week, which equates to approximately $144 a year per capita. Some households can throw away over one quarter of their food; however they perceive that they do not waste as much food as they actually do; meaning a change in behaviour will be

more difficult to encourage. The main reasons for food waste in NZ are leftovers not being eaten or food in fridge/freezer going off. In urban settlements, food waste is more likely to be put in the rubbish than in rural settings where it is composted or feed to animals. Households that do not create food waste suggest more careful planning of grocery shopping and recipes as well as understanding how to store perishables so that they last longer. An awareness and behavioural change campaign would also be useful to try and reduce the issue

With a population of approximately 47,900, this means in Tairawhiti we throw away nearly $6.9 million worth of food per year.

Community feedback

The WMMP 2018-2024 was sent out for community consultation with the 2018-2028 LTP

The feedback was supportive of the plan however, there were some residents who wanted rural waste concerns to be further addressed in the plan

The community see potential for improvements to kerbside refuse and recycling collection

- wheelie bins
- collection of compost to reduce food waste going to landfill
- some community members have found that it is expensive to dispose of some class 2 landfill items of hazardous waste because in some cases only 1 of the 2 class 2 landfills will except certain things. They can charge high prices
- animals get into rubbish bags and make a mess
- current system with recycling bins-just get damaged all the time
- one sticker =5kg rubbish bag-this system makes no sense how do we weigh? Households will be reluctant to put more than one sticker on. Price of stickers high
- In rental situations, some property managers or landlords are not passing on the refuse stickers that they receive with their rates and therefore tenants are having to pay for their own.
- Rubbish collection for rural areas
- Longer hours for transfer stations
- Rubbish bins in public places need emptied more often
- Green waste charges at transfer stations too high
- There are rates charges for rubbish collection in areas without the service available
- Community keen on plastic bag free Tairawhiti (led by the Tairawhiti Residents Association)

Projects underway

Gisborne Waste Minimisation Fund:

- Relocation of Rethink Centre
- School visits to Rethink Centre (1000 year 4-6 students yearly)
- Enviroschools Regional Coordinator and Regional Partner support
- Waste minimisation materials support: subsidy for recycling crates, subsidy for home composting bins, zing for home composting, event bins station
- Events: Second-hand Sunday, composting workshops, Touring Green Team Show, Nappy lady, Beyond the Bin, The Rubbish Trip, Plastic Free July

Partnership with Tairawhiti Environment Centre for recycling services:

- E-waste (sent to South Waikato Achievement Centre)
- Recycling collections for: household batteries, mobile phones, coffee pods, Glad products, Colgate products etc.
- Agrichemical and plastic bale wrap (Plasback and Agrecovery)
- GDC contestable waste minimisation fund.
- Gizzy Kai Rescue visited Kaibosh in Wellington in 2018 for training. Ready to move into Tairawhiti Environment Centre (September 2018)
- Rhythm and Vines: Saving the tents- post festival clean up and diversion of camp equipment from landfill
- Plastic free Tairawhiti: Flag the Bag banners, billboards and jute bags. Raising awareness around single use plastics
- Para Kore: 9 Marae and 4 community organisations

Pipeline:

- Alternative use and disposal work
- Cedenco- led waste feasibility study
- Envirolink study to scope hazardous waste issues
- Contaminated land assessment and associated remediation
- Solid waste bylaw
- Para Kore: award winning waste minimisation project; vision for all Marae to be working towards zero waste by 2020; there are 171 Marae participants in Ruapehu, Far North, Gisborne, East Coast, Hawkes Bay and Rotorua

POLICY FRAMEWORK

National Policy Direction

Fiscal policy

Central government can use tax revenue and public spending tools to stimulate or cool economic growth.

To stimulate economic growth, the government could decrease the amount of tax New Zealanders pay on income or consumption and/or increase the amount they spend in the budget. Both of these acts would lead to the operating surplus to decrease or going into debt. Government is limited to the amount they can stimulate the economy as they have to operate within the five budgetary responsibility rules which include keeping national debt to a minimum (New Zealand Institute of Economic Research, n.d.).

Provincial Growth Fund

As part of its commitment to unlocking the full potential of regional Aotearoa, the Government has allocated $3 billion, over three years, to enhance economic development and employment opportunities in the regions. Tairawhiti has been identified as a surge region and has been prioritised for early investment and support through the Provincial Growth Fund (PGF). Through the Provincial Growth Fund, the Government is investing heavily in the future of the Tairāwhiti region. In September 2018 the Prime Minister and Minister for Regional Economic Development announced an investment package of $152.7 million for the region. This will help boost the region's economy, create jobs and enhance tourism opportunities (Provincial Development Unit, n.d.).

Monetary Policy

The Reserve Bank of New Zealand (RBNZ) is required to keep inflation to between 1 and 3% over the medium term, with a focus of keeping future average inflation near 2%. RBNZ sets the Official Cash Rate (OCR) for New Zealand (and reviews this seven times per year). Figure one shows how changes to the OCR affect spending and activity and in turn employment and inflation. A decrease to the OCR will decrease market interest rates and lead to an increase in spending. In turn employment and inflation will increase. The OCR also effects exchange rates therefore influencing New Zealand's trade environment (Reserve Bank of New Zealand, n.d.).

Resource Management Act 1991

The Resource Management Act promotes the sustainable management of natural and physical resources. The Act provides the overarching direction to ensure development occurs in a way that sustainably manages natural and physical resources. Councils must recognise and provide for Section 6-Matters of National Importance, have particular regard to Section 7-Other Matters and take into account the Principles of the Treaty of Waitangi. Local authorities must develop regional, district or unitary plans to meet the requirements of the Act (Environment Guide, 2018).

Regional Policy Direction

Tairawhiti Resource Management Plan

This unitary plan contains rules that stipulate the type of development that can occur to ensure the sustainable use of natural and physical resources for future generations (Gisborne District Council, 2018).

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TANGATA WHENUA

INTRODUCTION

This report provides an overview of the issues, opportunities and potential actions regarding iwi and hapū across the Tairāwhiti. It is based upon information from relevant strategy, policy and planning documents and workshops with Gisborne District Council staff and our partners.

CONTEXT

Importance of this Topic

The Tairāwhiti is a region steeped in the history of adventurous people, founded through voyaging and discovery. Tairāwhiti is the landing place of Nukutaimemeha, Horouta and Takitimu waka, the people of these waka founding settlements across the region. This is clearly depicted in the image of Tairāwhiti showing waka landings and tribal areas in Figure 1 below. Subsequent to this is the arrival at Kaiti Beach in 1769 of Captain Cook and his crew, the first Europeans to set foot in New Zealand. This was the first meeting between the two cultures.

In 1840 Te Tiriti o Waitangi (the Treaty of Waitangi) was signed between representatives of Queen Victoria and respective Chiefs across New Zealand. It resulted in the declaration of British sovereignty over New Zealand by Lieutenant Governor William Hobson in May 1840. Most Māori chiefs signed a Māori-language version of the treaty; but the English- and Māori- language versions held different meanings, resulting in Māori and Europeans having different expectations of the Treaty's terms they had agreed to. Since, the Waitangi Tribunal is a means through which the Crown has sought to identify wrongs in its duties under the Treaty and has through settlements sought resolution between Crown and respective Iwi.

Nearly half of our Tairāwhiti population is Māori and to ensure we reflect this part of our community, it is important our planning recognises Te Ao Māori, cultural practises, tikanga Māori and incorporates Mātauranga Māori as a part of who we are. In doing so we recognise these are fundamental and unique to our Māori population but that Māori also share in wider matters that affect the community as a whole, such as access to natural and physical resources, education and health and employment services.

We have identified the opportunity to further celebrate our rich cultural heritage and to support Iwi aspirations, such as the development of Māori owned land, land-based enterprises, local tourism and housing development opportunities.

Tāngata whenua aspirations are highlighted under this theme – we also recognise their importance across the whole Spatial Plan with the intent to integrate them across other themes. Iwi and hapū have an important role as kaitiaki (guardians) of and to care for the mana, the tapu, and the mauri of the environment. Kaitiaki is about ensuring that the mauri (the life force) of the environment and the people are healthy and strong. Kaitiaki and Māori environmental and cultural practises of preserving, conserving, restoring and repairing as well as using resources for present and future generations are recognised in legislation. The environment and its resources are covered through the various sections of the Spatial Plan, including soils, freshwater and air, the coastal environment, biodiversity and sustainable land use.

The culture of tangata whenua predominates in many parts of the Tairāwhiti today, from the marae and Council meeting rooms to the local sports grounds and fields. It is rich in history and tradition and should be celebrated and acknowledged. At Council we aim to respect this culture and the other cultures that exist now in the Tairāwhiti.

This document is a working document that will be updated throughout the process by the Topic Lead to reflect any changes as the Spatial Plan is developed.

Demographic Information

The Gisborne District is the largest district in the North Island, covering approximately 8,386 square kilometres of land area. The population of the Gisborne district at the last census (2018) was 47,900 (Gisborne Distict Council, 2018).

The district rates highly on the social deprivation index. Income levels are below national medians, with a median household weekly income of $1,400 in 2017 for both Hawkes Bay and Gisborne combined, compared to $1,578 nationally. This highlights rates affordability as a particular concern and focus for Council. The population of Gisborne is forecast to grow to around 50,000 by 2028 . The majority of growth is expected to be located on the western side of the city and its surrounds, including the Taruheru block. Some growth is also expected in the beach settlements east of the city, along with some intensification within the existing urban area.

Location of waka landings (Source: https://teara.govt.nz/en/waka-canoes)

According to 2013 Census figures, of the current population, 48.9% of people living in the Tairāwhiti identify themselves as Māori, with 60.8% identifying themselves as New Zealand European, which is as a result of being able to identify with both ethnicities. The Māori population ranks 6th in size out of the 67 districts in New Zealand, with 3.3% of New Zealand's Māori population living in the Gisborne District. Rangatahi (aged under 15 years) make up 32.7% of the Māori population in Gisborne District, compared with 33.8% for all Māori in New Zealand, and 7.3% of Māori in Gisborne District aged 65 years and over, compared with 5.4% of all Māori in New Zealand's population.

The current demographics of Māori in Tairāwhiti indicate Māori are improving in statistics across the board; however, it is clear inequality is still an issue. Due to the statistics also accounting for Māori as a whole, there is little stratified information on the specific Tangata Whenua demographic. From the available information, we can predict that the Māori population as whole will continue to improve in schooling statistics. Māori achievement is currently growing at a slower rate (1.3 percentage points higher than 2011) than that of other students.

The unemployment rate of Māori aged 15 years and over in Gisborne District is 16.1%, compared with 15.6% for New Zealand's Māori population, with the most common occupational group for Māori in Gisborne District being 'labourers'. This is also the most common occupational group for Māori across New Zealand .

Within the Gisborne district there are 4 distinct Iwi groups covering 60 hapū across 72 marae. As shown in Figure 2, there is a distinct spatial distribution of marae within Tairāwhiti, and 228,000ha of Māori land across the region, with some of the highest concentrations of Māori freehold land in New Zealand, as shown as various colours in Figure 2.

Ngāti Porou is the largest tribe geographically and population wise; spanning the coastline from Potikirua to Te Toka a Taiau with over 12,000 members locally. Te Aitanga-a-Māhaki has 2,589 affiliates while Rongowhakaata has 4,920 and Ngāi Tāmanuhiri has 786.

For each of the Iwi within the Tairawhiti, they have representative entities. The entities are mandated to represent each of the Iwi when managing post settlement assets and fulfilling roles under various legislation (i.e. Resource Management Act 1991, and the Māori Fisheries Act 2004). The respective Iwi entities are as follows:

- Ngāti Porou – Te Runanganui o Ngāti Porou
- Ngāi Tāmanuhiri – Tāmanuhiri Tūtū Poroporo Trust
- Rongowhakaata – Rongowhakaata Iwi Trust
- Te Aitanga-a-Māhaki – Te Aitanga ā Māhaki Trust

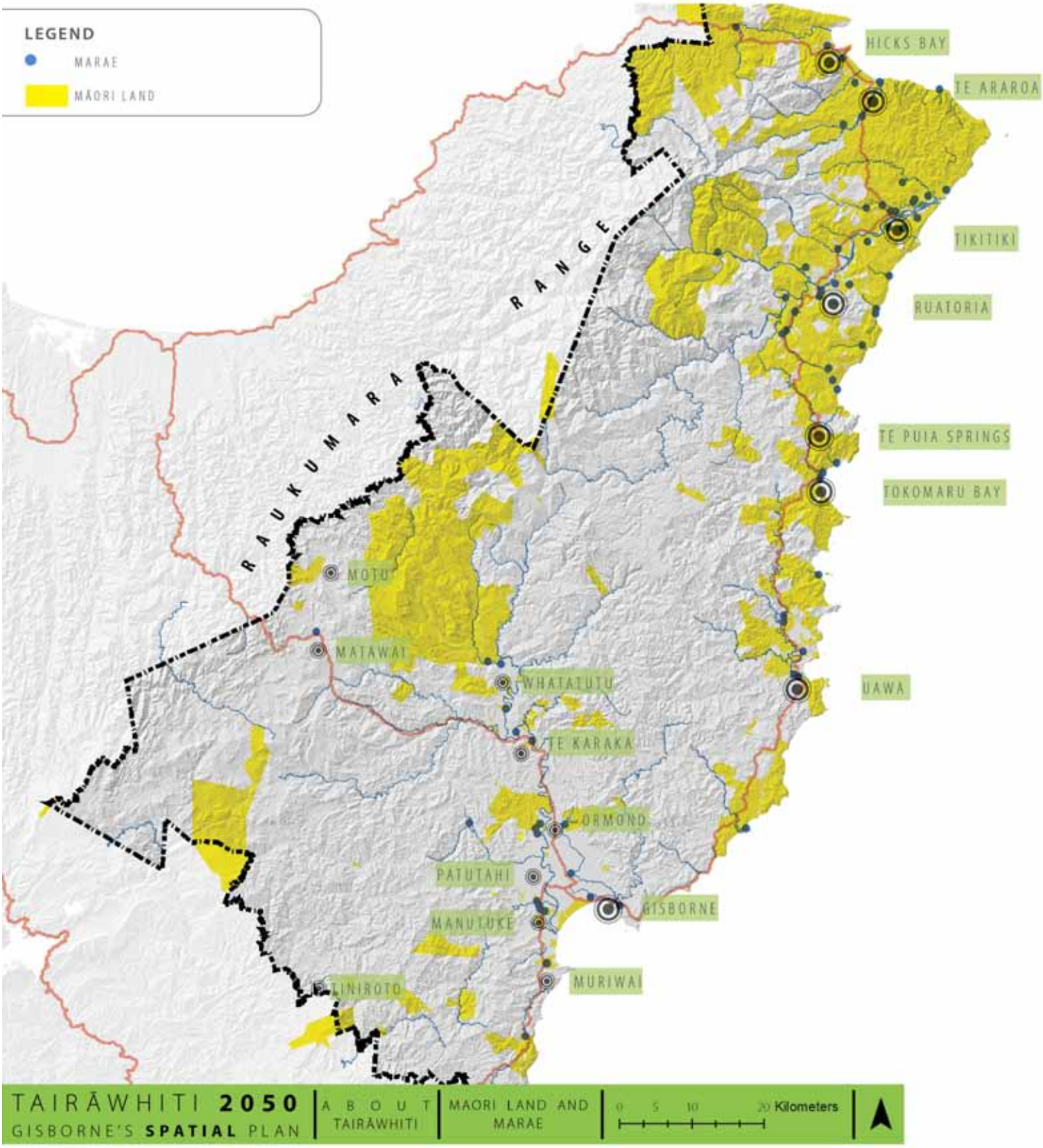
Iwi/Hapū and Council relationship

We acknowledge the importance of Council Iwi relationships and note these relationships can be improved. As stated in our "Tairāwhiti Piritahi: Fostering Māori Participation in Council Decision-Making Policy 2018" we will try our best to uphold and further develop relationships with Māori collectives in our region over the next 30 years; We will try to accommodate for and harmonise the cultures we have in Tairāwhiti to improve relationships and provide good outcomes for the community as a whole.

In 2015, a Joint Management Agreement (JMA) was signed between the Council and Te Runanganui o Ngāti Porou. The JMA provides joint representation on Resource Management Act 2001 decision-making processes in the Ngāti Porou rohe (boundary), specifically at this stage in the Waiapu Catchment, in time applying the JMA to the entire Ngāti Porou rohe. The principles of the relationship between Ngāti Porou and Council include:

- The principles of good-faith and cooperation and to be open and transparent when making decisions;
- Recognising that both parties can contribute in working towards the visions for Council and Ngāti Porou;
- Acknowledging the relationship of Ngāti Porou hapū and their culture, traditions and mātauranga with and over the whole of the environment;
- Recognise that this JMA operates within statutory frameworks;
- The importance of Council's existing relationships with Ngāti Porou and
- For Council to keep Ngāti Porou informed.

As well as this, a Local Leadership Board is to be established as a result of the Ngāi Tamanuhiri Claims Settlement Act 2012. This is comprised of two representatives from Ngāi Tamanuhiri, Rongowhakaata and Te Aitanga a Mahaki Iwi, alongside equal representation of Council. One outcome aims to achieve greater coordination and agreement amongst the various Tairāwhiti Iwi and Council while also providing clearer roles and responsibilities and strengthening the relationships with Council.


LEGEND
MARAE
MĀORI LAND
RAUKUMARA RANGE
HICKS BAY
TE ARAROA
TIKITIKI
RUATORIA
TE PUIA SPRINGS
TOKOMARU BAY
UAWA
MOTU
MATAWAI
WHATATUTU
TE KARAKA
ORMOND
PATUTAHI
GISBORNE
MANUTUKE
MURIWAI
TINIROTO
TAIRĀWHITI 2050
GISBORNE'S SPATIAL PLAN
ABOUT TAIRĀWHITI
MAORI LAND AND MARAE
0 5 10 20 Kilometers

Other Council – Iwi relationships include:

- Ngati Oneone and Gisborne District Council Memorandum of Understanding for on-site earthworks for the extension of Hirini Street (2015);
- A protocol for the Heinz-Wattie site between the representatives of Te Whanau–ā–Iwi;
- Ngai Tāwhiri, Ngati Oneone, kaumatua, Gladiator Investments Limited and Gisborne District Council;
- MoU GDC, TROTAK and artist for the development of "Ruapani" (2014);
- MoU with Whakarua Park Board (2015) to support the development of Whakarua Park
- MoU with Tikitiki X Ahuwhenua Trust for Tikitiki Park (2017).

Māori participation in Council Decision making

The Local Government Act 2002 (LGA) recognises and respects the Treaty of Waitangi by placing some specific obligations on councils to establish and maintain processes to provide Māori to contribute to decision-making processes of the Council. In general terms these provisions include:

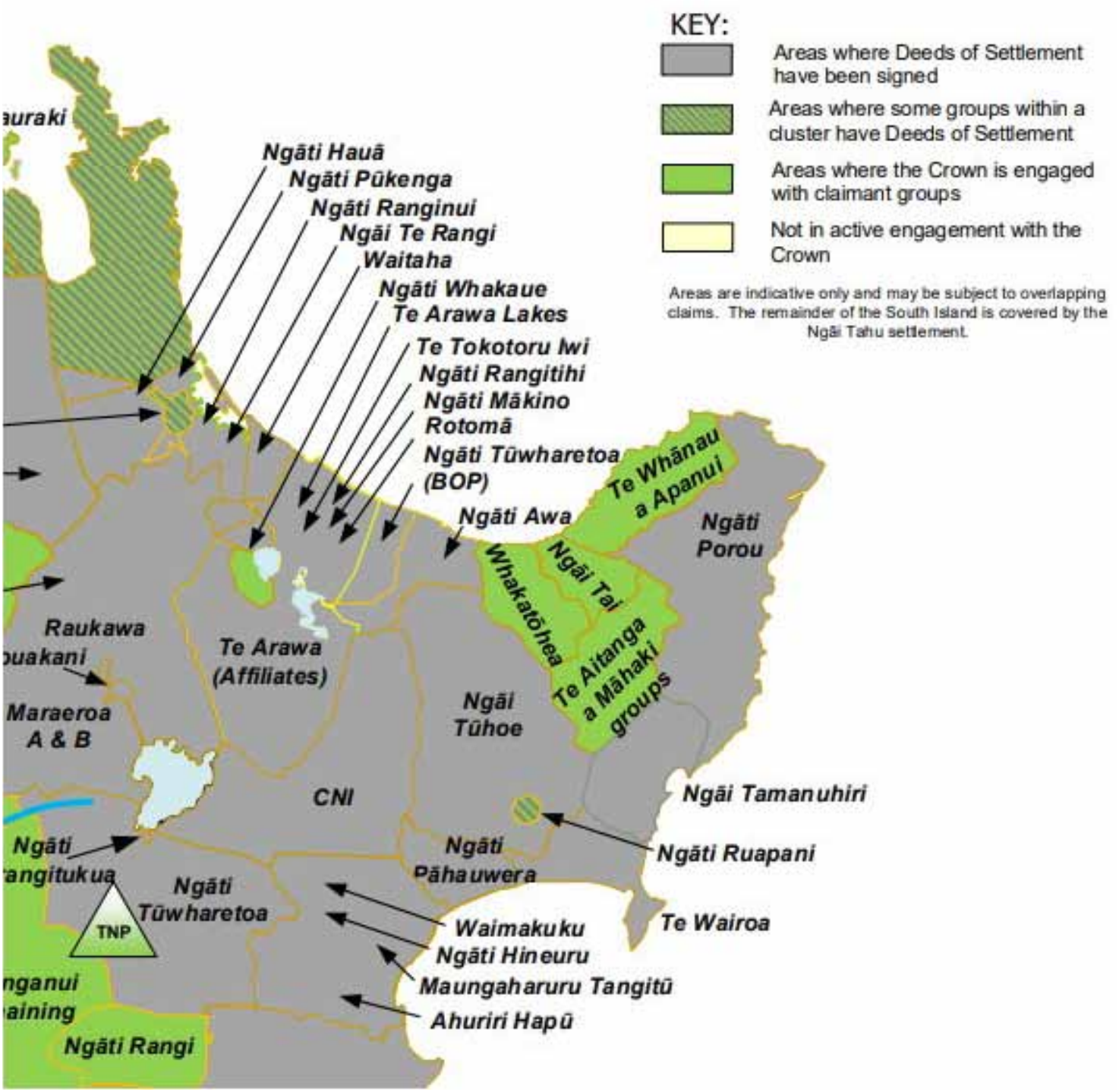
- A principled approach to providing opportunities for Maori to contribute to its decision-making processes as identified under Part 2 s.14 (d) which outlines the principles relating to local authorities and Part 6 s.82 (2) outlining the principles of consultation;
- Establishing and maintaining processes to provide opportunities for Maori to contribute to decision-making processes (Part 6 s.81 (a));
- Considering ways in which it may foster the development of Māori capacity to contribute to the decision-making processes of the local authority (Part 6 s.81 b);
- Providing relevant information to Māori.

Tairāwhiti Piritahi sets out a framework to which will guide Council's work with Māori collectives. It is derived from Councils statutory obligations, understanding organisational capacity needs and recognises the post Treaty settlement environment. The objectives of the policy are that Council will:

- Enable Te Tiriti o Waitangi – Support the spirit and implementation of our district's iwi Treaty settlements;
- Be an empowered organisation that values Te Ao Māori;
- Effect Māori participation in Council democracy;
- Strengthen relationships and share decision making with Māori – take a whole of Council approach with engagement which will support co-designed and co-located projects and processes with mutually beneficial outcomes.

Examples of how tāngata whenua are involved in Council decision making processes include:

- At all Council and Council Committee meetings, there is an agreement for a fixed agenda item to enable tāngata whenua to address the meeting on any topic in accordance with Appendix G of the Council's Standing Orders.
- A list of all resource consent applications received by Council is sent to relevant Iwi for information with the provision of information being provided from iwi to inform the processing of consent, where required.
- Notification is given to respective iwi where requirements for statutory acknowledgement are triggered.



Progress settlement map, as at September 2016 (Source: Office of Treaty Settlements)

Treaty Settlements

A Treaty Settlement is an agreement between the Crown and a Maori claimant group to settle all of that group's historical claims against the Crown. The Office of Treaty Settlements ("OTS") is responsible for negotiating settlements on behalf of the Crown and oversees their implementation. OTS also manages a portfolio of Crown properties (e.g. Old Gisborne Police Station), that are available for use in future settlements.

The negotiation of a Treaty Settlement follows a number of key milestones. These include:

1. A group's mandate to negotiate with the Crown is recognised.
2. Terms of Negotiation are signed, which establish a framework for negotiating the settlement.
3. Groups in negotiation then work towards an Agreement in Principle, which sets out the major details of the redress package. A settlement typically includes an historical account, acknowledgement of Treaty breaches, apology from the Crown, and a package of commercial and cultural redress.
4. After the final details of the redress package have been agreed, a Deed of Settlement is signed by both parties.
5. The passing of settlement legislation is the last step before a settlement is implemented.

Historical settlements can only be negotiated by the Crown and the claimant group. All major Crown decisions are made by Cabinet or the relevant ministers, with the Office of Treaty Settlements supporting the negotiation and settlement process.

Parliament passes the law to put the settlement into effect and stop the courts or the Waitangi Tribunal from holding further hearings into any historical grievances of the claimant group.

It is important to note that the claimant group can't be fully compensated for their losses. Instead, settlement redress is intended to recognise the losses, restore the relationships between the group and the Crown, and contribute to the group's economic development.

As noted in Section 3.2 above, all but Te Aitanga-a-Māhaki have settled Treaty of Waitangi claims through the Treaty Settlement process.

Through the Treaty Settlement process, a number of Treaty partnerships have been formed, these include:

- Memorandum of Understanding and Joint Governance Group with Te Runanganui o Ngāti Porou and Ministry of Primary Industries, demonstrating a 100-year commitment to collaboratively work with landowners to address the health of the Waiapu River Catchment;
- Local Leadership Board established as result of Ngāi Tamanuhiri Claims Settlement Act 2012.

The following section covers the national and local level statutory and non-statutory documents which help to guide, recognise and provide for the rights of Māori through decision-making processes and to exercise their tino-rangatiratanga and kaitiaki.

National Legislation

Treaty of Waitangi 1840

Founding document for Aotearoa / New Zealand. A commitment between the Crown and Māori in which rights and authority including governance, over land and resources, and rights and protection of citizenship are detailed within the three articles of the Treaty.

Treaty of Waitangi Act 1975

While not national legislation its important to recognise this as the founding document for New Zealand. The purpose of the Treaty of Waitangi Act 1975 was to establish the Waitangi Tribunal and give the Treaty of Waitangi recognition in New Zealand law. The Tribunal is empowered to investigate possible breaches of the Treaty by the New Zealand government or any state-controlled body, occurring after 1975.

The Tribunal is responsible for the Treaty Settlements process, which has been discussed previously. The Treaty of Waitangi Act is relevant to this topic in the Spatial Plan because the Act enables through the Treaty Settlements process, the redress of historical Treaty breaches and enables the transfer of Crown land to tāngata whenua, co-governance or commercial and financial redress.

Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019

The Nga Hapu o Ngati Porou Foreshore and Seabed Deed of Agreement focuses on:

- How the mana of the hapu is to be better legally recognised and protected in relation to the foreshore and seabed;
- The way in which hapu can manage and protect such things as wahi tapu and customary fisheries; and
- How mana will be reflected in the wider management of the foreshore and seabed in the future.

Through the implementation of this legislation, Ngāti Porou will be enabled to re-establish their rangatiratanga and kaitiaki over their coastal marine areas, adjacent lands and environment.

Marine and Coastal Area (Takutai Moana) Act 2011

The purpose of the Takutai Moana Act is to:

- establish a durable scheme to ensure the protection of the legitimate interests of all New Zealanders in the marine and coastal area of New Zealand;
- recognise the mana tuku iho exercised in the marine and coastal area by Iwi, hapū, and whānau as tāngata whenua;
- provide for the exercise of customary interests in the common marine and coastal area;
- acknowledge the Treaty of Waitangi.

The Takutai Moana Act is of relevance to this topic, as it recognises the connection Māori have with the marine and coastal area through customary rights and provides for an equal Crown and hapū partnership over areas under customary title.

Statutory acknowledgements – Ngā Whakaaetanga ā Ture mō Te Tairāwhiti

A Statutory Acknowledgement is a mechanism within a settlement that provides a formal acknowledgement by the Crown that recognises the specific cultural, spiritual, historical and traditional association of Iwi, with a site of significance or resource identified as a statutory area.

Within the Gisborne district Ngāti Porou, Rongowhakaata and Ngai Tāmanuhiri have statutory acknowledgements over the various rivers within their respective rohe and the coastal marine area.

Statutory Acknowledgements are important in relation to this topic as they acknowledge the importance of the relationship between tāngata whenua and the environment through resource management and plan-making processes. They enable the respective Iwi to be engaged with when making decisions which may have an impact over the area covered by the statutory acknowledgment.

Resource Management Act 1991 (RMA)

The RMA through its various sections recognises the relationship tāngata whenua have with the environment. Māori and their culture are given special recognition in the RMA in sections 6, 7 and 8 as follows:

- the importance of the relationship, the culture and traditions tāngata whenua have with their lands, water, sites wāhi tapu and other taonga (section 6);
- the potential role of kaitiakitanga as a way of managing resources (including the specific means of Iwi management plans) (section 7);
- the principles of the Treaty of Waitangi, including the notion of good faith consultation (section 8);
- the legitimacy of consultation with tāngata whenua in policy-making affecting the use of resources.
- to achieve consistency and improve the effectiveness of the engagement between Councils and tāngata whenua in RMA planning and consenting, the RMA has been amended to:
- enhance opportunities for Iwi input to the RMA plan-making processes ;
- introduce a new process for establishing agreements between tāngata whenua (through Iwi authorities) and councils, called Mana Whakahono a Rohe: Iwi participation arrangements.

The RMA is relevant in the context of this Spatial Plan topic through recognising the important role tāngata whenua have as kaitiaki for the environment, ensuring that they are continually engaged with and part of the Council decision-making and plan-making processes.

Local Statutory Documents

Long Term Plan

The Vision for the Long Term Plan 2018-2028 (LTP) is;

Tairāwhiti First!

Tairāwhiti Tangata First to see the light

Tairāwhiti Taonga First choice for people and lifestyle

Tairāwhiti Wawata First Choice for enterprise and innovation

First place for the environment, culture and heritage

Working in a partnership approach is important in supporting the community. Of importance to this topic is the aspirations of Iwi. The LTP has acknowledged the importance of working together with Iwi and as a result has developed 'Tairāwhiti Piritahi: Fostering Māori Participation in Council Decision-Making'. This recognises the connection of how people use their assets in order to fulfil their aspirations and is relevant to this Spatial Plan topic. According to the Waitangi Tribunal, partnership involves ensuring that the needs of both Māori and the wider community are met.

Regional Land Transport Plan

The Regional Land Transport Plan 2018-2028 (RLTP) sets out how roading investment is spent on land transport. Through the implementation of the RLTP, it will enable investment in the key strategic priorities identified in the RLTP. Of particular relevance to this topic, investment in safety, integrated planning, economic performance and environmental sustainability are important to Iwi.

Tairāwhiti Resource Management Plan

The Tairāwhiti Resource Management Plan (the Plan) covers all of Councils' resource management plans including the regional policy statement, regional coastal plan, regional plan and district plan.

The provisions relating to tāngata whenua and their interests, aspirations and involvement in resource management are supported by more specific provisions embedded throughout the Plan; relating particularly to resources including freshwater, the coastal environment and air quality. Through the implementation of these provisions throughout the Plan recognises the importance of restoring and maintaining the mauri of the environment through kaitiakitanga. Sustainable management involves sustaining the mauri of natural, physical and metaphysical resources.

Gisborne District Council's Urban Development Strategy

The Urban Development Strategy 2015 (UDS) sets a vision for how the urban area might best evolve over a 30-year period from 2015. The UDS is Council's main strategy for making sure that the land in Gisborne and its surrounding rural area get used in ways that create plentiful opportunities for communities to live well and prosper, to move people and goods around safely and easily, and to share our rich heritage.

The purpose of the UDS is for Council to contribute to a liveable and sustainable Tairāwhiti and achieve the Council Community Outcomes through the three key priorities:

- Protection of the elite soils of the Poverty Bay Flats;
- Re-orientation of the city to strengthen its connection to the coast and rivers;
- Providing integrated and efficient core infrastructure.

The key priorities of the UDS may be of particular importance to this topic as they recognise tāngata whenua interests in decisions on land use and resource management, through protecting productive soils and retaining the urban boundary. The UDS also seeks to celebrate the unique stories and interpretations of tāngata whenua through engagement with Iwi and understanding their connection with the environment.

Non-statutory Documents

Regional Economic Development Agency – Activate Tairāwhiti

Activate Tairāwhiti is Gisborne's regional economic development agency. The Mission Statement is "to ensure every child in Tairāwhiti has an economic future".

The regional economic development agency has prepared the Tairāwhiti Economic Action Plan (TEAP) which is a collaborative plan developed to grow the economic potential of the region across the primary industries and tourism sectors, enhancing the connection between people and markets and creating regional employment capacity and business development. Activate Tairāwhiti have also worked alongside Kimihia he Oranga (KHO) who have a mandate from local Iwi to prepare a Māori Economic Development Report for Tairāwhiti , further enhancing the collaborative nature of the TEAP.

The development and implementation of this plan is of particular importance to this topic, as it will enable the development of Māori owned land in the region, which accounts for 28% of the total land area within the region, and strengthen the link between education and employment to provide more jobs across a range of sectors within the region to retain young people in the region, and keep them connected with their cultural identity.

Iwi Management Plans

The purpose of Hapū and Iwi Management Plans are to provide a mechanism for tāngata whenua interests to be considered in Council processes.

Nga Ariki Kaiputahi Hapu/Iwi Management Plan establishes the strategic vision for the sustainable management of natural and physical resources within the rohe of the Mangatu marae and Ngā Ariki Kaiputahi.

The IMP is designed to protect the health and wellbeing of Papatuanuku, Ranginui and Nga Ariki Kaiputahi. It is for the collective voice of Nga Ariki Kaiputahi hapu/Iwi and it also addresses kaitiakitanga, the responsibility tāngata whenua have as guardians of the areas in which we live. The IMP will enable Nga Ariki Kaiputahi to now begin to resume active practice of their responsibilities and values in regards to their maunga, whenua, awa, catchment areas and resources in partnership with the Crown and the Council.

Te Aitanga a Mahaki Iwi Management Plan is in three parts:

- A freshwater policy statement;
- An environmental inventory; and
- A GIS database of sites and places of significance to Te Aitanga a Mahaki

An intent of the Iwi Management Plan is to define means to which Council can meet the expectations of Te Aitanga a Mahaki through resource management decision making processes and monitoring and reporting mechanisms.

KEY STAKEHOLDERS

The key stakeholders that are relevant to this particular topic are listed below. As previously noted throughout this report, the importance of maintaining and strengthening the Council Iwi relationship has been highlighted. The stakeholders listed below are crucial to this relationship and ability to deliver Council's responsibilities and the aspirations of its community.

- Gisborne District Council
- Ngāti Porou – Te Runanganui o Ngāti Porou Trust
- Ngāi Tāmanuhiri – Tāmanuhiri Tutu Poroporo Trust
- Rongowhakaata – Rongowhakaata Iwi Trust
- Te Aitanga-a-Māhaki – Te Aitanga ā Māhaki Trust
- Te Rūnanga o Turanganui a Kiwa

Through the Treaty Settlement process, this has resulted in the establishment of co-governance agreements being established for areas of significance and the transfer of Crown land to mana whenua. Iwi in the Gisborne District are now in a position whereby they have established trusts that are responsible for the economic viability and future growth and development of their respective hapū and future generations. A strong relationship with Council is important to the continued growth and success of these Trusts.

Relevant information

The relevant information that we have drawn on to help shape this topic includes a range of resources, these include:

- Gisborne District Council statutory and non-statutory documents
- wi trust websites
  - Ngāti Porou
  - Rongowhakaata Iwi Trust
- Iwi business groups:
  - Ngāti Porou Seafoods Group
  - Whāngārā Farms
  - Ngāi Tāmanuhiri – Wharerata Forests Limited
- Spatial information including:
  - Marae and tapu sites
  - Māori land holdings
- Treaty Settlement website
- Statistics NZ website (http://nzdotstat.stats.govt.nz/)
- Activate Tairāwhiti
- Te Puni Kōkiri
- Te Matapihi he Tirohanga mō te Iwi Trust
- Tairāwhiti Gisborne Tourism (https://tairawhitigisborne.co.nz/)

CURRENT INITIATIVES, PLANNING, PROJECTS UNDERWAY

There are a series of both Council-led and Iwi-led initiatives and projects underway within the Tairāwhiti, as listed below.

- Development of the Tairāwhiti Spatial Plan – this is the first Spatial Plan developed for Tairāwhiti which will guide the development of the region over the next 30 years, enabling the community to respond to the challenges and opportunities faced.
- Township Plans – These plans have been / are being developed for all townships within Tairawhiti in conjucntion with the local community of each respective township. The intention of these plans is to provide guidance for the future development of these townships over the next 20 years, through understanding the aspirations of those tāngata whenua who live in the respective townships.
- Navigate Tairāwhiti - This is a programme of projects that are being delivered together with Council and tāngata whenua as well as partner organisations. Council has partnered with four Tūranga Iwi and through the delivery of the projects, the purpose of the programme is to bring to light shared stories of Iwi arrival as great navigators to New Zealand, their settlement as well as bilingual historic interpretations.
- Iwi / Hapū specific consultation and engagement – during the development and refresh of Council documents, consultation and engagement with the Māori collectives is undertaken to ensure perspectives of iwi/ hapū are reflected in these documents i.e. the Long Term Plan, Tairāwhiti Resource Management Plan.
- Council Policy Advisor (Maori Focus) – This role at the Council is designed to ensure the organisation contributes significantly to Council's goals and strategy in the area of social, cultural and economic development. The role requires the individual to work across a broad spectrum of strategic areas and will have an important role in liaising with the community and other partners, both Maori and non-Maori.
- Te Puni Kokiri (TPK) – the purpose of TPK is to "promote increases in the levels of achievement attained by Māori in a number of key sectors ". TPK have eight key focus areas, of which the relevant areas for this topic include rangatahi leadership and development, Crown relationships with whānau, hapū and Iwi, access to employment opportunities and enabling ahuwhenua. Some of the key projects and initiatives that TPK are part of include:
  - Whānau Ora: increasing the wellbeing of individuals and whānau to lead full lives and uses the power of whānau to improve the wellbeing of individuals and whanau;
  - TPK works in partnership with other government agencies and the private sector to develop policies and opportunities that support the growth and development of Māori within the Information Technology sector;
  - Māori Business Growth Support: assisting Māori to establish and grow their business. TPK do this by providing information, advice and brokering relationships;
  - Rangatahi Leadership and Development: TPK are teaming up with whānau, community leaders and employers all over the country to assist our young people on a pathway to further education, training and employment.
- Te Matapihi – the trust was established in 2011 with the purpose of:
  - Advocating for Māori housing interests at a national level;
  - Offering an independent voice for the Māori housing sector;
  - Assisting in Māori housing policy development at central and local government levels;
  - Supporting the growth of the sector by providing advice, facilitating collaboration, and sharing high quality resources and information .

  The trust also works alongside and is aligned with the directives and objectives of the Māori Housing Network which is undertaken by TPK.
- Te Tumu Paeroa - Te Tumu Paeroa is an independent organisation that supports Māori land owners to make the most of their land. They support multiple Māori landowners whether they are based in NZ or other countries, managing around 7% of Māori owned land.

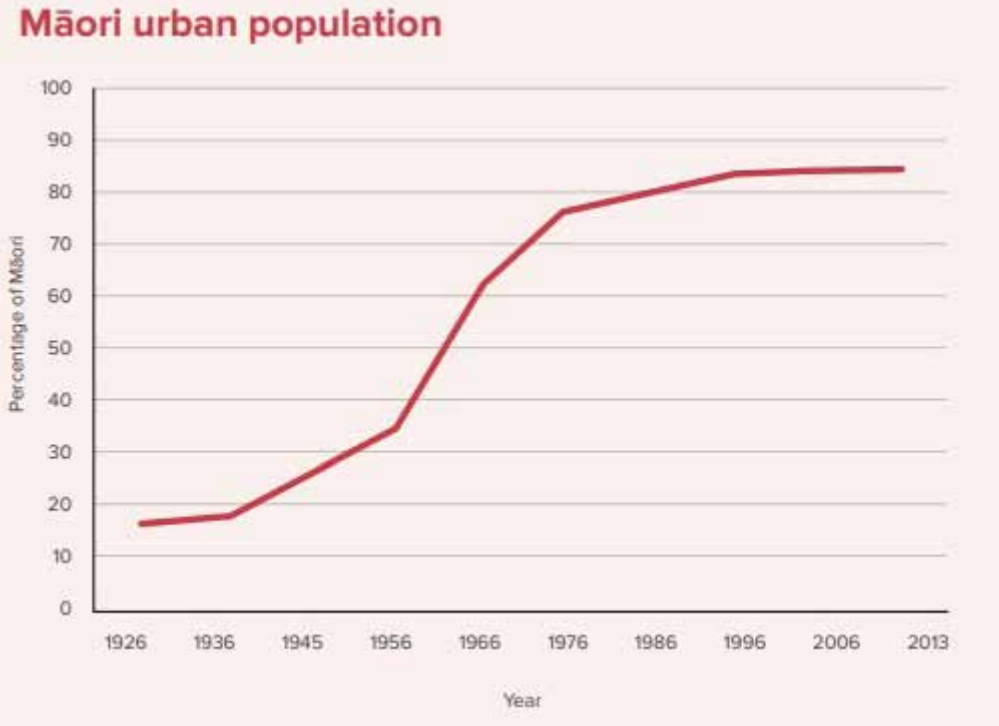
Iwi/Māori Settlement

In the 1930s, 80% of the Māori population lived in rural areas and tribal homelands, however by the 1970s, there was a significant shift away from a largely rural tribal culture to one that is predominantly urban, with a large majority of Māori being urban dwellers - around 70% and by 2013 84% of Māori were living in urban settlements, as per Figure 4 below. This rapid urbanisation had a profound effect on the structure of Māori groupings and Māori identity that remains evident in patterns of Iwi identification today . In 2001, the census identified that around 20% of Māori had lost contact with their original Iwi and hapū, however the importance of whānau is still strong across the country.

In recent years, there has been a resurgence in Māori reconnecting with their whenua – by reasserting whakawhānaungatanga and their rangatiratanga. This has also been supported through legislation such as the RMA, the Marine and Coastal Area (Takutai Moana) Act, Treaty Settlements and programmes such as the TPK Whenua Māori Programme. The importance of Māori connection to the land is important as their identity is tied to the land, and they are kaitiaki of the land. The role as kaitiki is to have guardianship of and to care for the mana, the tapu, and the mauri of the environment – based on matauranga.

To provide context as to future settlement patterns for Māori, there has been research undertaken by Te Puni Kokiri (TPK) . The research provides some insight to migration and urbanisation of Māori, their diversity and identity. As previously noted, the Māori population predominantly were rural based up until the 1970's. By 2038, it is estimated that close to 9 in 10 Māori live in the North Island, and one quarter of Māori live in the Auckland region, with the largest Māori populations in Auckland, followed by Waikato and the Bay of Plenty. In terms of Māori living overseas, the vast majority are in Australia. As at 2016, more than 140,000 people with Māori ancestry lived in Australia . In terms of re-migration of Māori returning home to New Zealand, 62 percent of Māori living overseas considered their overseas location as a place for permanent settlement.

In the context of Tairāwhiti, projections provided from Statistics NZ indicates Māori by 2038 will make up 61% of the population, an increase of 12.1% from 2013. This is a notable growth in population over this time and when viewed with the associated social economic levels, education attainment and lower than median average salary for Māori as well as keeping in mind over all there is an increasing aging population. This tends to indicate similar or worsening levels of deprivation for the area.



Māori urban population (Source: Te Puni Kōkiri – Future Demographic Trends for Māori – Part Two)

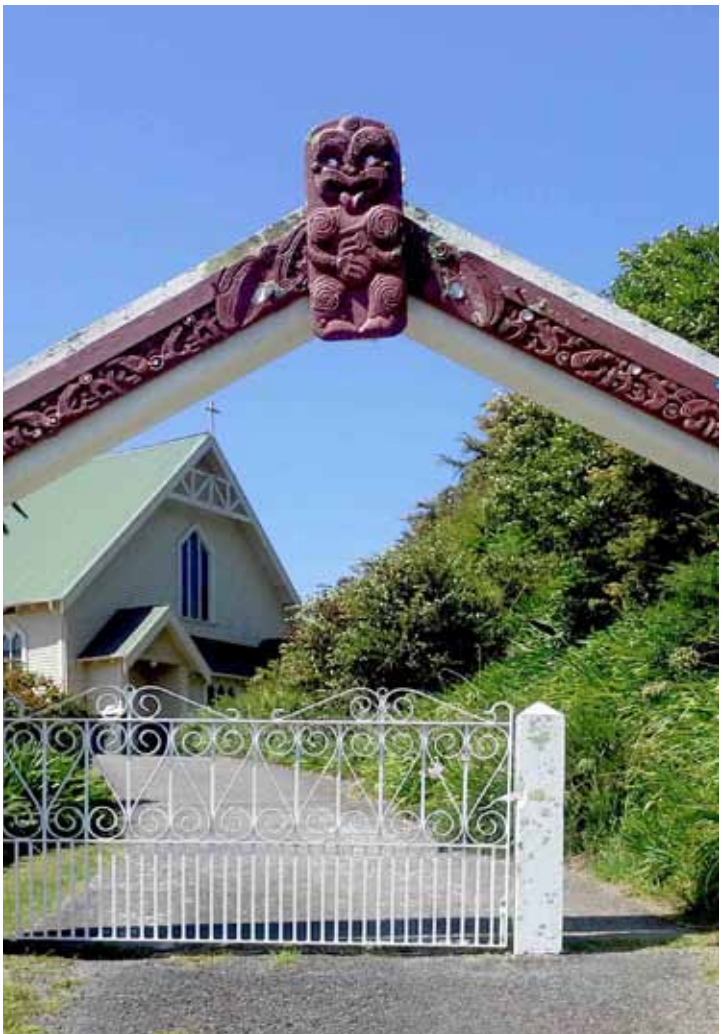
What have Iwi told us in the past?

In the past, Māori collectives have sought to have their voice heard to influence local and national decision-making.Historically, government bureaucracy and litigation has led to severe consequences for the Māori people, Māori social groups and Māori businesses throughout the country.

Collaborative business models have been employed by many post settlement iwi entities, including Ngati Porou, which has led to a boom of Māori industries across a range of sectors including forestry, fisheries, apiculture, agriculture and horticulture.

Continuing to build relationships and engagement processes Council with Marae, Hapū and Iwi entities will further develop working relationships in both a formal and informal capacity.

Through the development of the various Council plans and documents, the Iwi of Tairāwhiti have been engaged, consulted and provided submissions to Council to help shape these plans and documents. This consultation and engagement is important to enable these plans to reflect the voice of Māori collectives alongside the community as a whole .



Through the various forms of consultation and engagement, Iwi have supported Council decisions or suggested other alternatives. This has been evident through the LTP development where submissions were received for such as:

- Improving road maintenance on key strategic routes (State Highway 2 and 35) to maintain key transport connections for communities and to support businesses ;
- To improve the treatment of wastewater so it is no longer discharged to the ocean and in turn improve the mauri of the ocean ;
- Seeking a greater application of rates waivers for Māori owned land as an interim measure while economic development conditions are improved, and greater financial returns are realised for those lands ;
- Improving the recreational facilities and amenity of the small East Coast settlements through the township plans .

The engagement and involvement of Iwi in Council decision-making and plan making processes has improved over time. Recent amendments to the Resource Management Act 2001, directions set in settlement legislation and The National Policy Statement for Freshwater has raised the bar in regards to involvement and participation of Māori in decision making processes. Council has sought to actively enable Māori collectives involvement and participation in Council processes. We acknowledge more work is required to build, foster and maintain relationships. As such we acknowledge these relationships have benefits beyond that of involvement in Councils processes. Opportunities exist in improved economic success of Iwi led economic development and businesses and improved wellbeing for Māori such as through better housing, education and job opportunities.

Known Areas of Activity

Within Te Tairāwhiti there are numerous examples of Iwi led economic development and businesses which support the aspirations, continued development and growth of the respective Iwi organisations. These range from development within the primary industries sector such as horticulture and apiculture and tourism ventures. Below are examples of the Iwi-led and influenced economic development in Tairāwhiti. With the 228,000ha of Māori land in Tairāwhiti, there is immense potential to develop it. Tairāwhiti has some of the highest concentrations of Māori freehold land in New Zealand.

The forestry industry is one of the largest contributors to the Tairāwhiti economy. There are 151,139ha of radiata pine planted in Tairāwhiti and 14% of NZ log exports come from Tairāwhiti . To add value to these wood products, there is investigation into the development of a local wood processing facility in partnership with Activate Tairāwhiti, the Eastland Wood Council and Te Rūnanganui o Ngāti Porou. This has the potential to create more than 150 jobs and boost the East Coast economy. Examples of Iwi forestry entities are listed below:

- Ngati Porou Forests Limited (NPFL) is a forest management company based in Ruatoria. NPFL establishes and manages forestry joint ventures between Ngati Porou landowners and forest investors. NPFL also manages Crown Forests, the Ngati Porou Treaty settlement forests and private investor forests. The vision of Ngati Porou Forests is "Kei te whenua te waiu mo nga whakatipuranga kei te whai ake". (The land will provide sustenance for future generations).
- Wharerata Forest Limited – Ngāi Tāmanuhiri are 50% shareholders in the Wharerata Forest, the other 50% is being managed by the Crown until Tātau Tātau o Te Wairoa has settled, after which they will become the owners of this 50% share.

Māori Freehold Land in 2010 (Source: Ministry of Agriculture and Forestry)

Development within the agriculture, horticulture and apiculture industries to use the Māori land resource within Tairāwhiti to its best potential include examples such as:

- The mānuka honey venture being led by Ngāti Porou Mīere, whereby they aim to position Tairāwhiti globally as the pre-eminent mānuka honey-producing region;
- Horticulture: Wi Pere Trust has extensive land holdings and interests in citrus and other horticulture-based activities on the Poverty Bay Flats. Recently an economic arm of Te Rūnanga o Ngāti Porou launched a trial into growing blueberries in the Tolaga Bay area for export;
- Sheep and beef:
    - The Tairāwhiti Farm Cadet Scheme Consortium. This is a partnership between the sheep and beef industry and Iwi to provide training and upskilling for the next generation of the taiohi. The aim of the programme is to provide skilled a labour force prepared to adapt to new technology, farming systems and management practises;
    - Pakihiroa Farms Limited is sheep and beef farm owned and managed by Ngati Porou. The company manages three farms Pakihiroa and Makarika in Ruatoria, and Puanga on the outskirts of Gisborne;
    - Whāngārā Farms, located on the East Coast north of Gisborne is a hapū partnership more the 2500 shareholder made up of three Māori Incorporations, Whāngārā B5, Pakarae A and other blocks and Tapuwae Whitiwhiti. The sheep and beef farm is approximately 8,500ha and runs 75,000 beef and sheep stock units .
- Aquaculture: Ngati Porou Seafoods Group is the group name for Ngati Porou's fisheries businesses. The company employ 35 people and manage the tribes' 5,500 tonnes of fish quota. Their mission statement is "…to protect, manage, and enhance seafood resources for Ngati Porou in a profitable and sustainable manner for the future" .

Tourism within Tairāwhiti also plays a big part in the economic success of the various Iwi who are the mana whenua. In 2015, the region had 1.3million visitor nights spending $150million . As part of showcasing the rich Māori heritage and culture of the region, a joint Council-Iwi project 'Te Tairāwhiti Navigations Project' which consists of five sub-projects, is underway. The aim of this project is to invest in the restoration of historic sites, and install infrastructure to improve and enhance the visitor experience to the region.

Ngati Porou Tourism is one of the key tourism operators in Tairāwhiti. The operation was established in 2018 to let more people visit the sacred site of Maunga Hikurangi. Ngati Porou Tourism is the only commercial operator with permission to provide guided tours of the Maunga. Another tourism operation also run by Ngāti Porou is Matakaoa Cultural Tours. These are marketed as 'Authentic Cultural Tours of the Matakaoa Region' including Potaka, Hicks Bay and Te Araroa.

KEY ISSUES & OPPORTUNITIES

Strengths

Engagement with tāngata whenua is supported by the parties we plan to engage in;

There is a strong desire at the hapu level for the opportunity to express views;

Will allow stakeholders to express their views;

Will allow us to establish clearly what tāngata whenua want and where.

Clear mandated Rangatira kī Rangatira interaction

Weaknesses

Some rift between the wider community – potential for perception of prioritising Māori engagement at the expense of other important projects such as roading;

Consultation may vary in time and recurrences – those we engage in may face consultation fatigue;

We will have to alter our consultation depending on which group we are talking to (different hapu have different surroundings, wants and needs);

Statutory and Council timelines for consultation may be quite tight.

Staff not empowered to led staff to staff engagement as a means to provide practical application and implementation of direction given at governance level.

Lack of co-ordination and ongoing responsibility to maintain contacts database for staff and members of community.

Lack of aspiration / direction setting information from Iwi.

Opportunities

Opportunity to form stronger bonds with tāngata whenua;

Improve engagement with and integration of Iwi, hapū, marae aspirations;

Educate others on the culture of tāngata whenua;

Spread appreciation of the culture.

Formalise structures of engagement at staff level, consenting and planning specifically.

Threats

Council might be seen as doing too much talking/consultation and not much to fix the issues discussed.

Backlash from sectors of community as to level of support / resource focused in this area

OPPORTUNITIES AND POSSIBLE ACTIONS

Opportunity	Possible Actions
Educational opportunities with the improvement of Māori statistics.	Provide courses/support for Maori to improve their statistics.
Business opportunities with Tāngata Whenua land owners.	Engage with Tāngata Whenua land owners; see what their priorities are.
Manpower drawn from a growing Tāngata Whenua population.	Provide more job opportunities in township areas where there is a significant Maori population.
Conservation assistance cooperating with Tāngata Whenua.	Work with Tāngata Whenua to preserve the surrounding environment.
Further cooperation with Tāngata Whenua can lead to increased opportunities for Māori within the Tairawhiti region and Tāngata Whenua land development.	Have consultation with Maori to identify where we can work on areas of interest, how we can go about it the best way.
With Tāngata Whenua support, conservation of indigenous land can be done in a manner that respects the mana whenua of the Tāngata Whenua in Te Tairawhiti, while also assisting in government re-planting with indigenous foliage.	Engage with Maori to help protect the environment.

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