
7. Taranaki context

7.1 Introduction

The purpose of the following section of the Group Plan is to provide an outline of the context to which civil defence emergency management applies in Taranaki. This includes an outline of Taranaki's physical features, climate, population, economy, infrastructure and services.

7.2 Location

The area encompassed by the CDEM Group for Taranaki includes the New Plymouth, Stratford and South Taranaki districts as demonstrated in Figure 10.

The CDEM Group boundary is based largely on the boundary of the Taranaki Regional Council, however also includes the far eastern portion of the Stratford district that is within the Manawatu-Wanganui region. In total, the CDEM Group area covers 860,900ha, extending from the Mohakatino catchment (approximately 70km north of New Plymouth) to the Waitotara catchment (approximately 56km south of Hawera), as well as inland from Stratford to approximately 20km northeast of Tahora. The Waikato and Manawatu-Wanganui CDEM Groups adjoin the Taranaki CDEM Group area.

The main service centres of Taranaki are New Plymouth, Waitara, Inglewood, Stratford, Hawera, Eltham, Opunake, Manaia, Patea and Waverley.

7.3 Physical features

Taranaki consists of four distinct landforms, each of which poses different hazards and risks. These are:

- the volcanic landscape and ring plain centred on Mt Taranaki/Egmont;
- the Taranaki hill country, including the frontal and inland hill country;
- the coastal and inland marine terraces of the north and south Taranaki coast; and

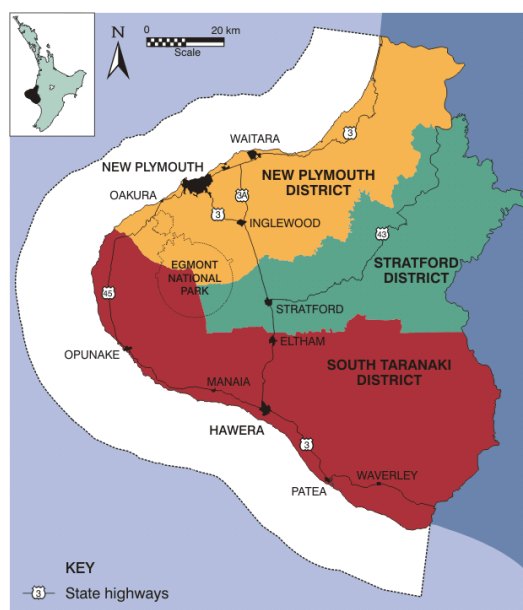


Figure 10 Taranaki CDEM Group boundary

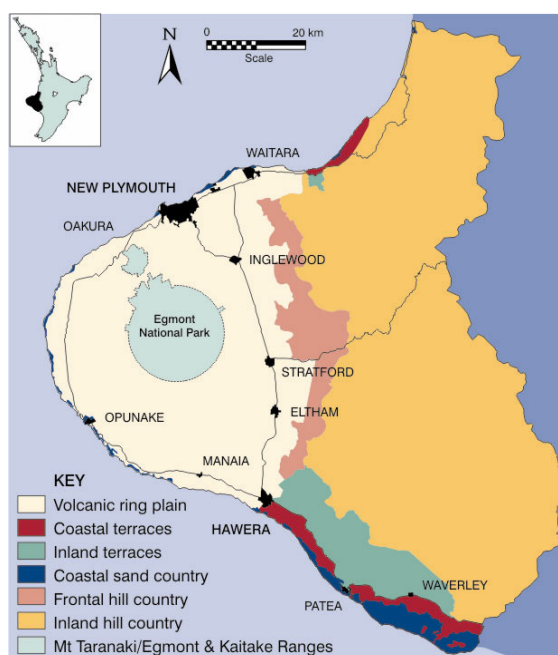


Figure 11 Landforms of Taranaki

- the coastal and marine environment (Figure 11).

Rivers and streams can also pose a hazard and threat to the region.

7.3.1 Volcanic landscape and ring plain

Mt Taranaki/Egmont (2815m) dominates the Taranaki landscape and is the most recent of the andesitic volcanoes that have developed in western Taranaki over the last two million years. It is an active volcano in a state of quiescence, and is one of a number of volcanoes in New Zealand where future eruptions are expected. The Pouakai and Kaitake ranges are the remnants of older extinct volcanoes.

Mt Taranaki/Egmont last erupted c. 1755 and deposits surrounding the volcano record intermittent volcanic activity for the last 130,000 years. Over the last 50,000 years the cone has collapsed intermittently causing debris avalanches and lahars. Erosion of the volcanic cone between successive eruptions has redistributed the volcanic debris around the base of the volcano creating the ring plain. The fertile volcanic ash soils (yellow-brown loams) of the ring plain support intensive pastoral farming, particularly dairying.

7.3.2 Hill country

The Taranaki hill country lies to the east of the ring plain. The frontal hill country is of strongly rolling topography, while the inland hill country is deeply dissected. The underlying strata of the Taranaki hill country is not volcanic, but consists of tertiary age sedimentary rocks – mudstones, siltstones and sandstones (known locally as papa).

The soils of the hill country are mostly steepland soils – shallow soils that have developed on steep, relatively unstable slopes. The composition and depth of soils is extremely variable, depending on topography, age, the proportion of siltstone, mudstone and sandstone, as well as the climate. Often erosion has prevented the development of a mature soil in the hill country. This land instability presents a risk to property infrastructure such as roads, tracks and power supplies. However, whilst the hill country is prone to such erosion, it can support both pastoral farming and commercial forestry when managed in accordance with the physical limitations of the land.

7.3.3 Marine terraces

Marine terraces raised by tectonic activity extend along the north and south Taranaki coasts. In the far north only a narrow strip of coastal plain is preserved, but between Waitara and Lepperton in the north and from Hawera in the south, the terraces extend up to 20 kilometres inland. Along the coastline, cliffs ranging from three to 60 metres in height have formed from high energy wave action.

The volcanic tephra deposits on the old terrace surfaces are deep and (because they are further from the volcanic centre) are finely textured. The 'Egmont soils' of these areas are classic volcanic loams and are among the most versatile and productive in New Zealand.

Sand accumulation is concentrated near river mouths, particularly along the southern coastline, where dune fields extend inland for several kilometres. Only 2.1% of the Taranaki region is classified as coastal sand country. However, because of their weak structure, these soils are susceptible to wind erosion if the vegetation cover is disturbed.

7.3.4 Coastal environment

The Taranaki coastline lies exposed to the west and, as a consequence, high energy wave and wind conditions dominate the coastal environment. Furthermore, almost the entire coastline of Taranaki is subject to varying rates of erosion from both waves and wind. This has resulted in a predominantly cliff coastline, with the western coast characterised by boulder cliffs and offshore reefs derived from erosion of debris flow material. In north and south Taranaki, erosion of tertiary marine sediments has resulted in a coastline of almost continuous papa cliffs and sandy beaches.

A few areas of sheltered water beyond the major estuaries exist such as the Tongaporutu, Waitara and Patea rivers, and the confines of Port Taranaki.

7.3.5 Rivers and streams

Over 300 rivers and streams flow from the slopes of Mount Taranaki/Egmont in a distinctive radial pattern. These streams are characterised by short narrow catchments of steep gradient, normally well incised into the volcanic ash and debris flow material of the ring plain. The Egmont National Park acts as a huge reservoir, supplying a steady flow of water to the ring plain streams, even during prolonged dry periods. The rivers that flow from the mountain are therefore extensively used by the agricultural sector, for community water supplies and for a wide range of recreational purposes.

In marked contrast to the near perfect radial drainage of the ring plain, the hill country displays a 'dendritic' pattern of drainage,

where the short tributaries are contained by narrow valleys (subject to periodic flooding) and then converge with a main river. In general, these rivers carry high sediment loads as a result of hill country erosion. The two largest rivers in Taranaki are the Waitara and Patea rivers, both of which drain sizeable portions of the Taranaki hill country and volcanic ring plain. The location of the main rivers and streams in Taranaki is demonstrated in Figure 12.

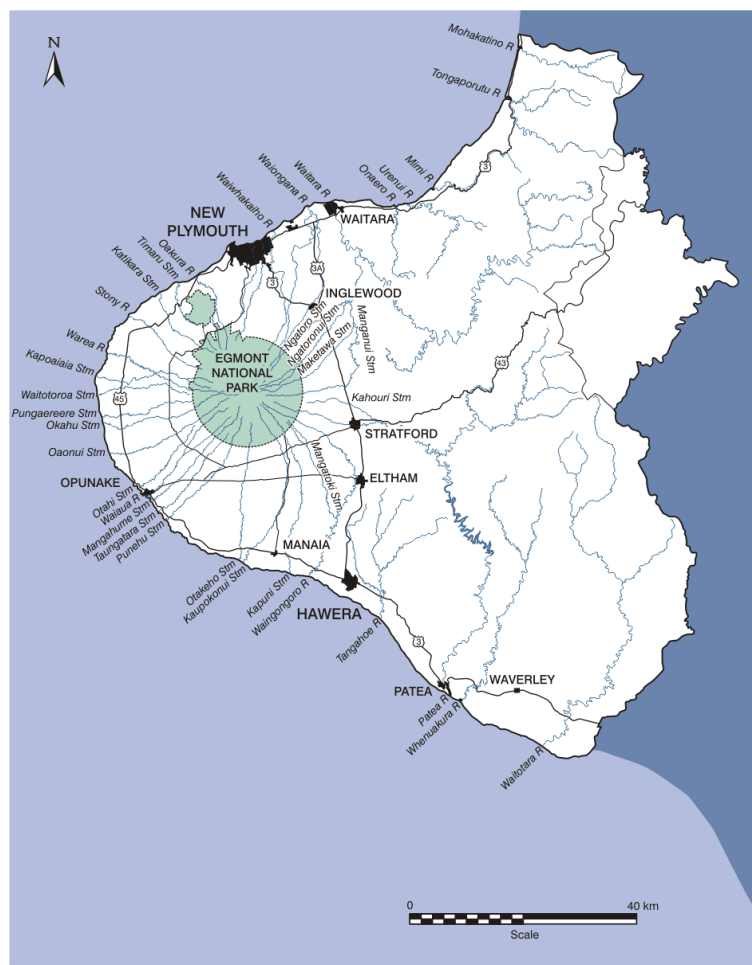


Figure 12 Main rivers and streams of Taranaki

7.4 Climate

The climate of Taranaki is determined by its westerly position, mid latitude location, and topography. Taranaki lies in the path of westerly moving weather systems over the Tasman Sea and has a generally sunny, windy climate, with moderate temperatures and regular rainfall throughout the year.

Rainfall varies markedly throughout the region, ranging from less than 1400mm in the coastal areas to in excess of 8000mm at the summit of Mount Taranaki/Egmont (Figure 13). The average intensity of rainfall at New

Plymouth is estimated to be 2.6mm per hour, with a total of 600 hours of rainfall during the year. This intensity is considered to be fairly typical of Taranaki coastal regions. Inland localities are influenced by the effect of Mount Taranaki/Egmont on rainfall intensities and it is suggested that rainfall intensities in Stratford are likely to be 20-50% higher than at New Plymouth²⁰. Rainfall also increases with an increase in elevation at Mt Taranaki/Egmont and in the Taranaki hill country.

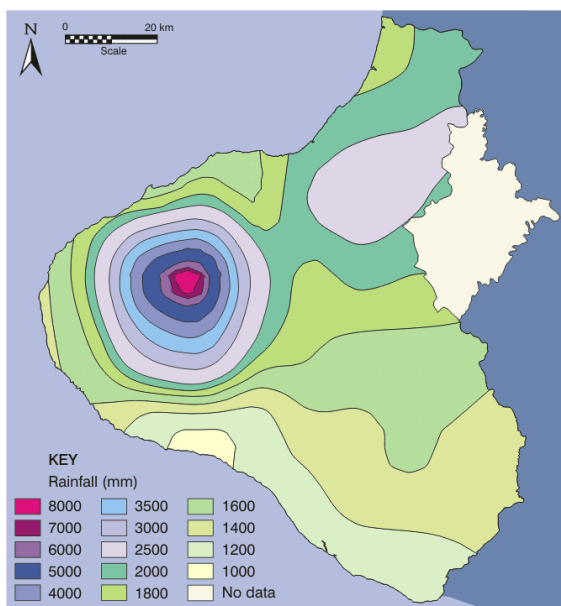


Figure 13 Mean annual rainfall, mm

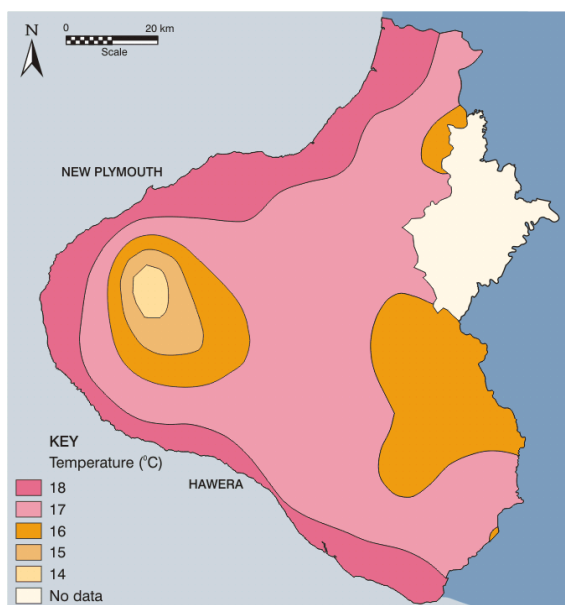


Figure 14 Mean temperature – January

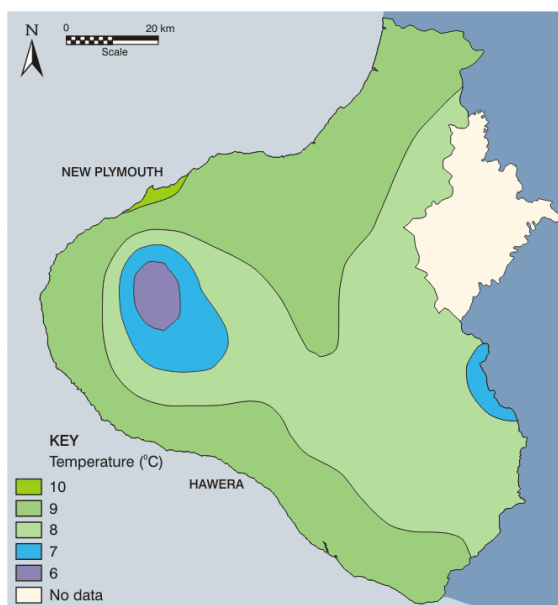


Figure 15 Mean temperature – July

²⁰ Fisher, G. W. and A. S. Porteous. 1996. *Air Quality in Taranaki. A Review of Monitoring Programmes*. National Institute of Water and Atmospheric Research, Auckland.

The mean daily temperatures for Taranaki in January (summer) and July (winter) are shown in Figure 14 and Figure 15 respectively. Minimum temperatures are lower at inland locations than at coastal locations, due to higher elevations inland and greater distance from the sea, which has a moderating effect on extreme temperatures. At sheltered inland sites, the daily temperature variation is larger than in coastal areas.

Taranaki also has average to high sunshine hours, with normal annual sunshine for New Plymouth Airport being about 2160 hours²¹.

Taranaki is windy, but wind strength varies greatly because of the range of topographical features in the region which influences the extent to which different areas are exposed (Figure 16).

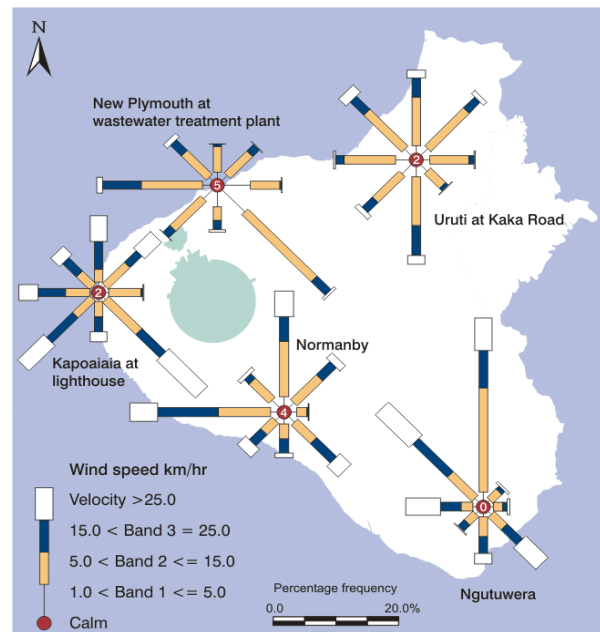


Figure 16 Wind roses for New Plymouth airport, Kapoiaia, Kaka Road and Ngutuwera

Westerly winds generally predominate in spring and summer, bringing unsettled and showery weather. South-easterlies are often predominant in coastal and exposed areas, with generally fine weather in Taranaki due to the sheltering effect of the ranges to the east. About 40% of New Plymouth's rain comes with winds from the north or northeast, with high rainfalls about Mt Taranaki/Egmont also common. However, much of southern Taranaki may remain relatively sheltered, with scattered showers or dry conditions. South-westerly winds are common in the cooler months.

7.5 Population

Taranaki's population was 102,858 at the March 2001 Census (Table 1). This represents a 3.5% decrease in population since 1996. Taranaki also experienced a small decline in population between 1991 and 1996. Over the last 10 years, Taranaki's population has decreased from 107,124 to 102,858, and currently accounts for 2.8% of New Zealand's total population. However, recent population estimates have projected Taranaki's total population as 105,700 in 2003²².

²¹ NIWA. 2001. *New Zealand National Climate Summary 1 January 2000 – 31 December 2000*.

²² *Statistics New Zealand Quarterly Review, December 2003*.

Table 1 Population changes in Taranaki 1991-2001²³

Local authority	Total population				
	1991	1996	% change 1991-1996	2001	% change 1996-2001
New Plymouth District	67 191	68 112	1.4	66 603	-2.2
Stratford District	9 882	9 546	-3.4	8 883	-6.9
South Taranaki District	30 228	29 133	-3.6	27 537	-5.5
Taranaki region	107 124	106 587	-0.5	102 858	-3.5

Population changes have also varied within the region. The most notable feature has been the continued concentration of population in the New Plymouth District, which in 2001 contained approximately 65% of the region's total population. Despite this fact, New Plymouth District's population did decrease in the 1996-2001 period after experiencing population increases over the previous 10 years. Both the Stratford and South Taranaki districts have also experienced declining populations over the last 10 years.

With regard to population density Taranaki is about average in relation to the rest of the country (14.2 people per square kilometre compared with 14.1 nationally)²⁴, with the general trend being a decrease in the population of smaller rural towns and an increased concentration of population in north Taranaki. This has resulted from a number of factors including reduced employment opportunities in rural areas and small towns through farm amalgamations, closure of dairy processing factories and reduced employment in servicing and other industries, combined with land diversification, lifestyle and retirement opportunities in north Taranaki. As an example, within the Stratford district only 11% of the population live in the "hill country" area east of Douglas, yet the hill country occupies three-quarters of the Stratford district land area.

The Taranaki population is both older and younger than the national average with a higher proportion of children under 15 years of age (23.7%) and adults over 65 years of age (14.2%), compared nationally with 22.7% and 12.1% respectively²⁵. This may be due to lifestyle factors with Taranaki seen as an attractive and desirable place for family living, with good facilities and affordable housing. Those in the 19-29 age groups may leave the region for further tertiary education or employment opportunities.

7.5.1 Tangata whenua

There are eight recognised iwi whose 'rohe' or tribal areas fall either wholly or partially within Taranaki (Figure 17). These are:

- Ngati Ruanui
- Nga Ruahine
- Taranaki
- Te Atiawa
- Ngati Mutunga
- Ngati Tama
- Ngati Maru
- Nga Rauru

²³ www.stats.govt.nz 2001 Census of Populations and Dwellings. Regional Summary.

²⁴ www.stats.govt.nz 2001 Census of Populations and Dwellings. Regional Summary.

²⁵ www.stats.govt.nz 2001 Census of Populations and Dwellings. Regional Summary.

Within these tribal groups there are several hapu seeking to gain or affirm separate iwi status.

The 2001 Census indicates that 14.7% of Taranaki's population is Maori²⁶ with 35 marae located throughout the region. The locations of these marae can be found on the Taranaki Regional Council's website (www.trc.govt.nz).

Tangata whenua and the environment

Maori view themselves as an integral part of the natural world. The spiritual beliefs held by Maori link the Tangata Whenua to their original parents Papa-tū-a-nuku (Earth Mother) and Ranginui (Sky Father) as part of a complete living system. The close attachment that Tangata Whenua have to their ancestral land and resources stems from their belief in a common origin and from occupation and use.

This relationship to the environment provides a link with both ancestors and future generations, as well as establishing tribal identity and continuity.

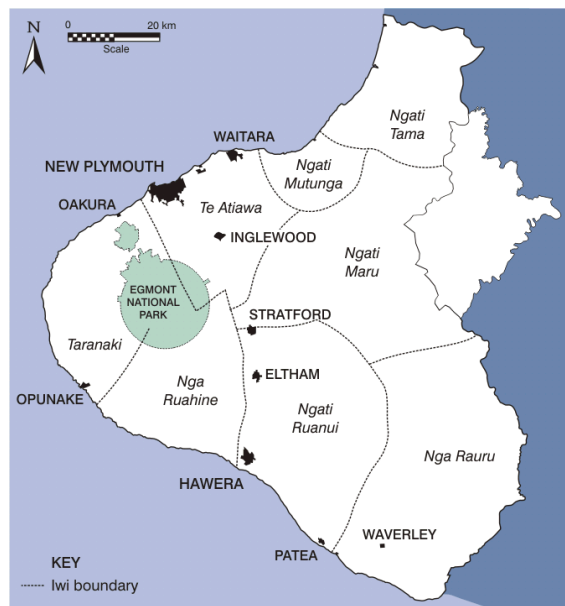


Figure 17 Iwi boundaries

The Treaty of Waitangi

The iwi of Taranaki are at various stages of negotiation with the Crown regarding settlement of historic Treaty of Waitangi claims. To date, two Treaty settlement claims between Taranaki iwi and the Crown have been signed. A deed of settlement between Ngati Ruanui and the Crown was signed on 12 May 2001 and a deed of settlement between Ngati Tama and the Crown was signed on 20 December 2001. A settlement agreement in principle was also signed between the Crown and Nga Rauru on 16 May 2002.

7.5.2 Households

As at 2001²⁷, there were 38,505 households in Taranaki with an average household size of 2.5 people. Of these, 96.1% households have access to a telephone, 31.6% to the internet, and 89.7% to a motor vehicle.

7.5.3 Employment and income

The predicted unemployment rate in the Taranaki region for 2004 was 5.1%, compared with 4.6% for all of New Zealand²⁸. As demonstrated in Figure 18, the single largest occupational group in the Taranaki region is agriculture and fishery workers (16.4%), demonstrating the reliance of the region on pastoral farming, particularly dairying (refer section 7.6.1 of the Group Plan). There is also a significant employment rate in the manufacturing sector as the region has developed a specialised engineering sector servicing the petrochemical industries. Although a small population of the total, employment in mining (1%) is five times the national average of 0.19%. This is largely due to the presence of the oil and gas industry (section 7.6.4).

²⁶ www.stats.govt.nz 2001 Census of Populations and Dwellings. Regional Summary.

²⁷ www.stats.govt.nz 2001 Census of Populations and Dwellings. Regional Summary.

²⁸ Statistics New Zealand Quarterly Review, March 2004.

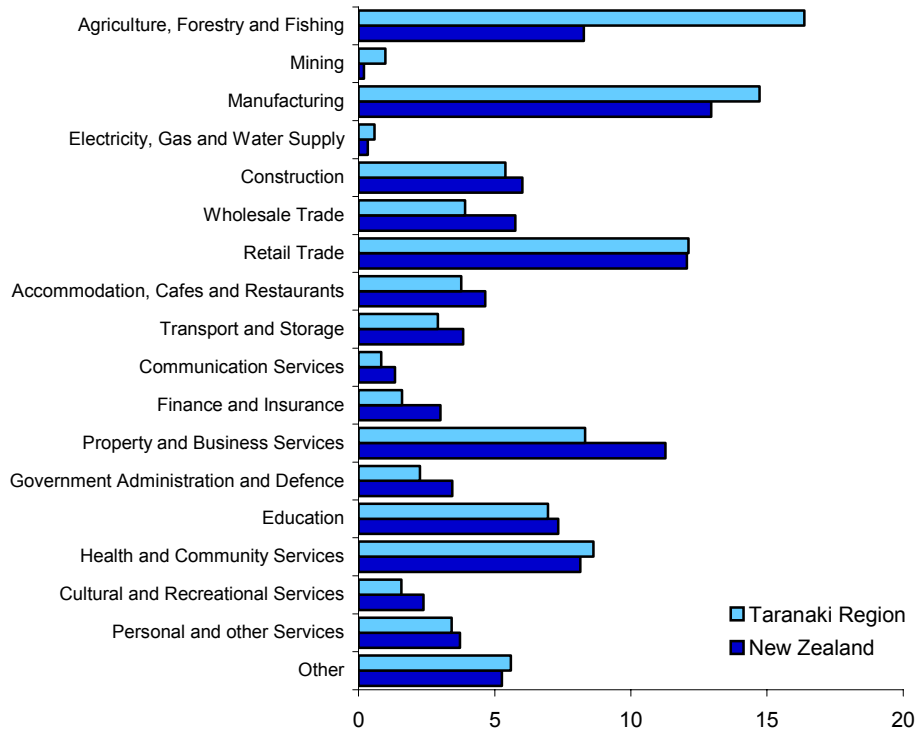


Figure 18 Taranaki employment by industry (www.stats.govt.nz 2001 Census data)

The median income of people in the Taranaki region aged 15 years and over was \$17,300 compared with \$18,500 nationally.

7.5.4 Education

There are 14 secondary schools, 4 intermediate schools, 91 primary schools, 4 Maori schools and 2 community learning schools in Taranaki. However, several of these schools are to be closed by the end of 2004.

There is one public tertiary education centre in Taranaki – the Western Institute of Technology at Taranaki (WITT). WITT has its main campus in New Plymouth, and also has learning centres in Taumarunui and Hawera. WITT offers programmes from Certificate to Degree level in a large number of fields including Business, Computing, Nursing, Arts and Media, Trades, Early Childhood Education, and Maori language and culture. There are also two private tertiary education facilities in New Plymouth as follows:

- the Practical Education Institute (PEI) offering continuing education and training to people within New Zealand and internationally; and
- the Pacific International Hotel Management School (PIHMS) providing practical daily experiences in all aspects of hotel operations to students.

As noted at the beginning of this chapter, a high proportion of Taranaki's 19-29 age group leave the region for tertiary education. The nearest universities are Massey University (Palmerston North) and Waikato University (Hamilton).

7.6 Economy

A notable feature of Taranaki is its reliance on the region's natural and physical resources for its economic and social wellbeing. Farming and other land based activities continue to play a prominent role in employment.

7.6.1 Agriculture and forestry

Over 16% of Taranaki's labour force is employed in the agriculture and forestry sector, compared with 8.3% nationally²⁹.

Dairying dominates farming in Taranaki, particularly on the ring plain. There are 2,272 dairy farms in Taranaki (16.6% of all New Zealand dairy farms), with over 500,000 dairy cows producing approximately 14% of New Zealand's total milk solids³⁰. Milk processing in Taranaki is now concentrated at one site – the Fonterra Whareroa site (formerly Kiwi Cooperative Dairies Ltd) near Hawera. At peak production this facility processes over 14 million litres of milk per day³¹. Other major agricultural processing industries are based at Kapuni (Fonterra Kapuni, formerly Lactose NZ Ltd) and Eltham (Mainland Products, Pastoral Foods and Dairy Meats Ltd). In addition to direct farm income from milk production, the added value from the processing of milk, whey and cheese manufacturing is a significant contributor to employment in the region.

Sheep and beef farming is concentrated in the hill country and plays an important part in the regional economy. There are approximately 1,150 sheep and beef farms in Taranaki stocking approximately 817,000 sheep and 123,000 beef cattle³². Meat processing works are located at Eltham (Riverlands), Hawera (Richmond) and Waitotara (Richmond).

Exotic forest plantations continue to expand with the region offering a suitable climate, suitable forestry sites and a well-established roading system and port facility. There has been a marked increase in exotic forest plantings in the region from 9,700 hectares in 1990 to an estimated 28,000 hectares in 2002³³.

Value of the dairy industry to the Taranaki economy

The dairy industry is a key driver of the Taranaki economy and plays a major role in the New Zealand economy. It is estimated that the value to Taranaki of dairy production is almost \$850 million per year³⁴, with capital investments in dairy land³⁵ and productive stock³⁶ being worth over \$4 billion.

²⁹ www.stats.govt.nz 2001 Census. Table 16 – Industry (division) for the employed census usually resident population count, aged 15 years and over, 2001.

³⁰ Livestock Improvement Corporation (2003). 2001-2002 Dairy Statistics.

³¹ Kiwi Cooperative Dairies Ltd.

³² Ministry of Agriculture and Forestry, 2000. North Central Monitoring Report, July 2000.

³³ www.stats.govt.nz 2002 Agricultural Production Census. Table 2 – Land use by region (as at 30 June 2002).

³⁴ Based on average production figures of 315 kg milk solids per cow with the average dairy company payout at \$5.35 per kg milk solids (Livestock Improvement Corporation (2003). 2001-2002 Dairy Statistics).

³⁵ Based on average land price being \$22 001 per hectare (Quotable Value NZ (2003). Rural Property Sales Statistics December 2002) for 180 417 total effective hectares used for dairying in Taranaki (Livestock Improvement Corporation (2003). 2001-2002 Dairy Statistics).

³⁶ Based on Taranaki's 501 004 in-milk dairy cows (Livestock Improvement Corporation (2003). 2001-2002 Dairy Statistics) being valued at an average of \$850 each (pers. comm. RF Lawrence, Ambreed NZ Ltd).

7.6.2 Pig and poultry farming

There are some 16 piggeries in Taranaki (a decline from 35 in 1995) and 47 poultry farms. Most pig farming is concentrated in the New Plymouth District.

Taranaki has a significant and growing poultry industry and is therefore recognised as the major poultry meat producing region in New Zealand (involving all aspects of the industry from breeding and growing to production and distribution). Operations are concentrated in north Taranaki with the major processing facility at Bell Block. The poultry industry has also undergone recent expansion with the closure of Tegel production operations at Te Horo near Levin and their shift to north Taranaki and Auckland in 1998.

7.6.3 Horticulture and cropping

Horticulture and cropping is not a significant land use in Taranaki – approximately 1,000 hectares in 2002³⁷. The crops grown include flowers, asparagus and roses. Maize crops (a supplementary feed stock for dairy cattle) have also expanded significantly.

Taranaki is self-sufficient in most crops with small local growers producing apples, tamarillos, kiwifruit, feijoas, berry fruit, some citrus fruit, strawberries and tomatoes for the local market and export.

7.6.4 Oil and gas industry

The Taranaki Basin is currently New Zealand's only hydrocarbon producing area. The Kapuni and off-shore Maui fields make up the major part of New Zealand's natural gas resources, with Figure 19 identifying the location of the major oil and gas fields in Taranaki.

By world standards, however, Taranaki remains under-explored. Between 1995 and 2001, 54 wells were drilled with many of these being wildcat wells³⁸. Extensive drilling programmes adopted by various companies have resulted in five significant finds since this time. The Mangahewa onshore gas and condensate field was discovered in 1997, the Maari offshore field in 1998, the Rimu onshore field in south Taranaki in 1999 and nearby Kauri field in 2001. The Pohokura offshore gas field in the North Taranaki Bight, the largest gas and condensate find in 30 years, was discovered in 2000. Exploration interest in Taranaki therefore still remains high.

The presence of oil and gas in Taranaki has given rise to new industries involved in the processing, distribution, use and export of hydrocarbons. Production stations or gas treatment plants are found at Oaonui, Kapuni, Waihapa, Rimu, Kaimiro and the McKee oil

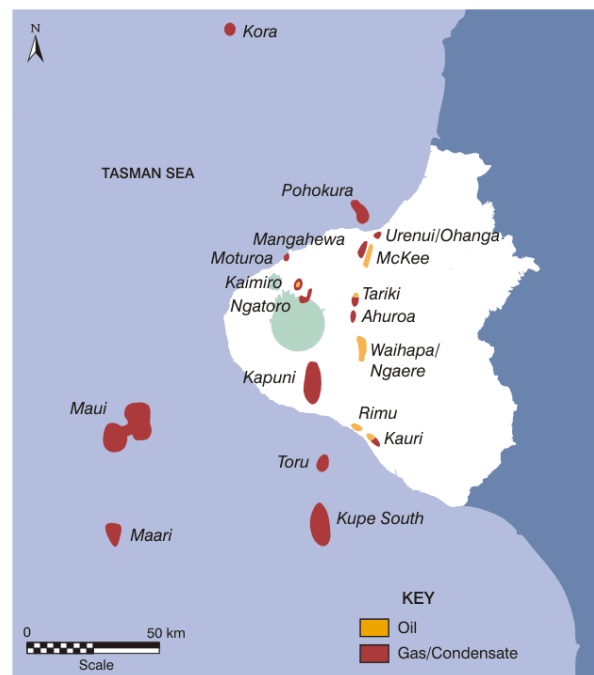


Figure 19 Main oil and gas fields in Taranaki

³⁷ Department of Statistics, *Final Results from the 2002 Census of Agriculture, Horticulture and Forestry*. May 2003.

³⁸ Rachael Palmer, *Fletcher Challenge Energy, Taranaki, 2001. Recent Developments in the oil and gas industry in Taranaki since 1995*.

and gas fields. The Methanex Motunui Ltd methanol production facility and the Methanex Waitara Valley Ltd methanol plant are located at Motunui and the Waitara Valley respectively. An ammonia urea plant is also located at Kapuni, urea-formaldehyde resin (an adhesive product) plant at Bell Block, and gas-fired power stations at Stratford and New Plymouth.

7.6.5 Manufacturing

Taranaki has a relatively small but distinctive manufacturing base, having developed a national and international reputation for its expertise in food processing, particularly of dairy products and speciality dough production. Furthermore, the special servicing needs of the dairy and petrochemical sectors (and to a lesser extent the meat, energy, industrial, chemical and timber processing sectors) have contributed to the development of both heavy and light engineering industries. Manufacturing therefore provides approximately 16% of Taranaki's employment opportunities.

7.6.6 Tourism

Tourism is playing an increasingly important role in the Taranaki economy with approximately 466,000 domestic and international visitors annually³⁹. The region's mountain, bush, gardens and parks are attracting increasing numbers of visitors for rural-based and outdoor recreation activities.

7.7 Infrastructure

7.7.1 Water supplies, stormwater and waste water disposal (sewerage)

Water supplies

The main municipal water supply catchments for the Taranaki region are:

- Waiwhakaiho River and Lake Mangamahoe – New Plymouth, Waitara and surrounding areas;
- Kapuni Stream – Hawera and surrounding area;
- Waiaua Stream – Opunake;
- Patea River and Konini Stream – Stratford; and
- Ngatoro Stream – Inglewood.

Supplies for other towns are drawn from smaller catchments. Approximately 95% of municipal water in the Taranaki region is sourced from surface water, with groundwater sources used for Oakura, Patea, Waiinu Beach and Waverley municipal water supplies. In addition to surface water, rainwater provides a consistent supply of relatively good quality water particularly for household use in rural areas not connected to an urban supply.

New Plymouth district

The New Plymouth District Council provides water supply, wastewater and stormwater services to New Plymouth and some or all of these services to eight other smaller communities within the New Plymouth district.

The New Plymouth District Council owns and operates four separate municipal water supply schemes, with treatment plants at Junction Road (sourced from the Waiwhakaiho River with Lake Mangamahoe acting as a reservoir), Dudley Road (Inglewood), Waiongana (untreated water for Waitara industry), Oxford Road (Okato) and Wairau Road (Oakura).

³⁹ www.taranakinz.org – quoting statistics from Statistics NZ's Commercial Accommodation Monitor March 2004.

The Junction Road Water Treatment Plant supplies New Plymouth, Bell Block, Waitara, Tikorangi and Urenui, with an extension to Omata planned for 2004. It services the greatest area and population in north Taranaki, with a maximum daily capacity of 44,000 cubic metres.

Table 2 shows that approximately 24,500 customers receive a water supply service from the New Plymouth District Council (including some rural customers), representing a serviced population of 51,100. There are slightly fewer wastewater and stormwater customers.

Table 2 New Plymouth District Council supply customers

Community	Water supply	Sewerage	Stormwater	Approximate population
New Plymouth	Yes	Yes	Yes	40,000
Waitara	Yes	Yes	Yes	6,000
Urenui	Yes	No	Yes	250
Inglewood	Yes	Yes	Yes	3,000
Egmont Village	No	No	Yes	100
Onaero	No	No	Yes	100
Oakura	Yes	No	Yes	1,200
Okato	Yes	No	Yes	350
Lepperton	Yes	No	Yes	100
Total Population				51,100

The New Plymouth District Council's maintenance contractor is ordinarily contacted through their call centre for urgent and reactive maintenance requests. The contractor is required to be contactable at all times and have sufficient staff on standby to attend callouts. A callout may be generated by either plant telemetry systems, Council service request, or from the public. The District Council also has an Incident Response Plan for escalating emergencies that may occur within their water and waste networks.

Stratford district

Within the Stratford district there are three water supplies, one wastewater system and two stormwater reticulation systems that are managed by Stratford District Council.

The main water supply services the township of Stratford and takes its water from the Patea River adjacent to the Cardiff Rd Bridge. The supply services a population of 5,000 people and, while it has the capacity to produce over 8,000 cubic metres per day, it is only consented to take 5,270 cubic metres.

The two other supplies are located at Toko and Midhirst, both of which are very small - having only a combined capacity of 480 cubic metres per day.

All physical works have been contracted out to a private contractor who operates under a Facilities Management Contract. This contract requires that the contractor respond to certain events within set times and report back in a format set by Council allowing records to be maintained. A call out may be generated by either plant telemetry systems, Council request or a direct approach from the public.

South Taranaki district

There are currently 14 separate water supply schemes within the South Taranaki district. Of these: 11 are owned and operated by the South Taranaki District Council, eight are urban or community water supplies and six are rural schemes. The 11 Council schemes supply

approximately 15% of the land area within the South Taranaki district with reticulated water.

The largest municipal urban water supply in south Taranaki is that to Hawera, sourced from the Kapuni Stream at Kapuni and piped via Okaiawa to Normanby, Hawera and Ohawe. This supply serves a population of 10,720 with a maximum daily demand of just over 10,000 cubic metres. Other significant urban schemes supply water to the townships of Opunake, Eltham and Patea. The largest rural scheme is the Waimate West supply which has an average daily demand of between 10,000 and 20,000 cubic metres. This scheme services 827 connections, including the townships of Kaponga and Manaia, as well as significant industry.

Groundwater sources are used for the Patea, Waverley, Waverley Beach and Waiinu Beach supplies, with pumps to raise the pressure within the reticulations.

Agricultural use of water supplies

Agricultural uses of water include stock drinking, farm dairy cooling and wash-down water, pasture irrigation and domestic use. Agricultural uses account for 33% of all allocated surface water and approximately 49% of all allocated groundwater in Taranaki.

Furthermore, water demand for agricultural purposes is anticipated to grow as a result of increasing dairy intensification and pasture irrigation in Taranaki (cow numbers have increased from 208,300 in the 1986-87 season to 495,00 in 2000-01)⁴⁰. Associated with this is an increase in the use of both surface water and groundwater sources, and the need to dispose of farm dairy effluent. The treatment and disposal of farm effluent also has the potential to affect these water supplies, consequently all oxidation ponds and spray irrigation systems are now licensed and monitored by the Taranaki Regional Council.

Industrial use of water supplies

Industry uses significant volumes of water – approximately 32% of all surface water use and 35% of groundwater abstractions in Taranaki. The main industry users of surface water are petrochemical processing (15%), dairy processing (11%), as well as meat and by-product processing (2%). Taranaki industries that rely on surface water for their core activities are listed in Table 3, with all major industries having prepared contingency plans for a possible water supply failure.

The Motunui methanol plant is the single petrochemical industry user of groundwater (24%), with meat and by-product processing (6%), dairy processing (3%) and hydrocarbon exploration/servicing (2%) also utilising groundwater sources.

Table 3 Taranaki industries that rely on surface water for core activities

Industry	Water usage
Fonterra Whareroa	Dairy processing complex <ul style="list-style-type: none"> • processing and manufacture of dairy products • cleaning of plant • cooling purposes
Fonterra Kapuni	Lactose manufacturing <ul style="list-style-type: none"> • cooling purposes • production
Fonterra New Plymouth Coolstores	Cooling plant purposes

⁴⁰ *Livestock Improvement Corporation Ltd, 2001. Dairy Statistics 2000-01.*

Egmont Tanneries Limited	Tannery and processing of animal skin goods <ul style="list-style-type: none"> • hide tanning operations
Dow AgroScience (NZ) Limited	Irrigation of agricultural crops at the Waireka Research Station
Ballance Agri-Nutrients Kapuni Limited	Ammonia Urea Plant <ul style="list-style-type: none"> • Surface water – plant operations • Groundwater – site remediation purposes and process use
TrustPower Limited	Hydro electric power generation <ul style="list-style-type: none"> • Patea scheme • Mangorei scheme • Motukawa scheme
Methanex Waitara Valley Limited	Operation of the methanol plant
Methanex Motunui Limited	Surface water – petrochemical plant Groundwater – site de-watering to minimise risk of substrate liquefaction in the event of seismic activity
Richmond Hawera Limited	Richmond Limited meat processing plant <ul style="list-style-type: none"> • refrigerator condenser cooling • processing operations
NGC of New Zealand Limited	<ul style="list-style-type: none"> • Operation of Kapuni Natural Gas Treatment Plant • Cogeneration plant steam exporting pipeline • Other on-site and off-site ancillary purposes
Shell Todd Oil Services Limited	Kapuni Production Station <ul style="list-style-type: none"> • oil and gas production • well killing purposes
New Zealand Energy Limited	Hydro electric power generation <ul style="list-style-type: none"> • Opunake scheme
Taranaki By-Products Limited	Rendering operation
Swift Energy New Zealand Limited	Hydrocarbon exploration purposes Hydrostatic testing of pipelines and crude oil tanks Drilling rig operations Utility and firewater purposes
Taranaki Abattoir Company [1992] Limited	Meat processing and rendering plant <ul style="list-style-type: none"> • stock and yard washing
Riverlands Eltham Limited	Meat processing plant <ul style="list-style-type: none"> • stock drinking • yard wash-down • miscellaneous purposes
Stratford Power Limited	Combined Cycle Power Station <ul style="list-style-type: none"> • cooling purposes • steam
Tegel Foods Ltd (Lepperton and Bell Block)	Meat processing plant <ul style="list-style-type: none"> • cooling water • wash-down
MCK Metals Ltd (Bell Block)	Aluminium resmelter and extrusion <ul style="list-style-type: none"> • cooling water
Contact Energy (New Plymouth Power Station)	Combined Cycle Power Station <ul style="list-style-type: none"> • cooling purposes • steam

Stormwater disposal

Reticulated sewerage and stormwater systems exist in the main urban centres and towns of Taranaki. These systems are owned and operated by each of the three district councils, with contractors often used to carry out general maintenance work. In the urban areas most of the rainfall and water runoff is caught in lined kerbside drains and discharged into the stormwater system after progressing through roadside stormwater sumps. These sumps capture the 'first flush' for dilution and enable solids (such as gravel and silt) to settle out of the flow. A natural wetland and ponding system has also been established in the Bell Block area of New Plymouth to catch any stormwater that is discharged from the industrial sites located in that area.

In rural areas, stormwater usually runs straight into waterways or drains, once soakage into the bed of the roadside channels is saturated. Most of the larger industrial or commercial sites in Taranaki also have their own stormwater management systems in place, whereby stormwater that may carry contamination is directed to interceptors to catch floatables (such as oils and scums) and heavier materials (such as silts and gravel, that often have harmful substances adhering to them) that may be discharged into stormwater drains and subsequently enter water bodies nearby.

The New Plymouth, Stratford and South Taranaki District Councils are responsible for the efficient drainage of stormwater in their district and for the control and management of stormwater drainage systems, including the effects of discharges from such systems into waterways and the sea. The Taranaki Regional Council regulates these discharges. Where there is a significant discharger sharing a municipal stormwater system with a territorial authority, the Taranaki Regional Council may require that discharger to obtain its own resource consent. The district councils also have the responsibility, as road controlling authorities, to manage the effects of stormwater/road run-off from roads they are responsible for.

Waste water disposal (sewerage)

New Plymouth district

The New Plymouth District Council operates reticulated sewerage networks in the towns of Inglewood, Waitara, Bell Block and New Plymouth. Sewage from all but Waitara is piped to the New Plymouth Waste Water Treatment Plant where it is treated and the effluent discharged to sea via a marine (piped) outfall. Similarly, Waitara sewage is treated at the Waitara Waste Water Treatment Plant and pumped to a sea outfall adjacent to the Waitara River mouth.

All other areas in New Plymouth District use on-site sewage treatment, mainly septic tanks with effluent disposal beds. The townships of Oakura, Onaero and Urenui are programmed to be serviced by reticulated sewerage systems within the next 5 years, with transfer by pumping and overland pipelines to the existing Wastewater Treatment Plants of New Plymouth and Waitara for treatment and disposal via existing marine outfalls. The New Plymouth District Council also has a Sewerage System Emergency Discharge Contingency Plan for responding to pump station failure and for managing overflows.

Stratford district

Within the Stratford district there is only one municipal wastewater system which serves the Stratford urban area. This system has 2,200 connections and a treatment system consisting of oxidation ponds that discharge to the Patea River east of the Stratford township.

All other areas within the district are served by privately owned septic tanks.

South Taranaki district

The South Taranaki District Council operates eight sewage treatment plants throughout the district. Details of each plant (including treatment systems) are outlined in Table 4.

Table 4 South Taranaki sewage and waste water disposal and treatment facilities

Treatment plant	System	Discharge
Eltham Waste Water Plant	Oxidation ponds Wetland treatment	1500m ³ /day

	Discharge to Mangawhero Stream	
Kaponga Waste Water Plant	Primary oxidation pond Discharge to Kaipokonui River	130m ³ /day
Opunake Waste Water Plant	Primary oxidation pond Wetland treatment Pumped to series of disposal soakage trenches	2100m ³ /day
Manaia Waste Water Plant	Single primary oxidation pond Discharge to unnamed stream	330m ³ /day
Hawera Waste Water Plant	Two oxidation pond system Pumped 3km to join Fonterra marine outfall (1.8km long)	10000m ³ /day
Patea Waste Water Plant	Primary oxidation pond Discharge to Patea River	450m ³ /day
Waverley Waste Water Plant	Primary oxidation pond Discharge to unnamed tributary of Wairoa Stream	450m ³ /day
Waiinu Waste Water Plant	Utilises partially treated effluent from 21 communal septic tanks Influent flows to a wet well Wet well pumps to sand filters Filtered effluent discharged to underground trenches	80m ³ /day

The 'Sewage Pump Station Emergency Discharge Contingency Plan' for the South Taranaki District Council outlines actions to be taken by the South Taranaki District Council and its contractors in the event of a failure of any of the pump stations or their associated rising mains.

7.7.2 Solid and hazardous waste facilities

Hazardous wastes are by-products of many industrial and commercial processes and can be either solids, liquids or gases. Liquid waste currently represents the largest proportion of hazardous waste produced in New Zealand, with most of this being disposed of via sewers⁴¹.

In Taranaki hazardous industrial and commercial waste is not accepted at landfill sites. The only hazardous waste that may be disposed of to a landfill is small quantities mixed in general domestic refuse collected from households. The New Plymouth and South Taranaki District Councils have a dedicated store for the storage of hazardous waste at a transfer station in their districts. Staff at transfer stations with such facilities are trained in the handling and storage of hazardous substances for compliance with New Zealand Standard 4452 for the 'storage and handling of toxic substances'. The hazardous wastes are then collected by an approved carrier and transported to appropriate disposal or recovery facilities. Stratford District Council has a facility at its transfer station for the temporary storage of hazardous goods, and then transported to the New Plymouth District Council facility on a regular basis, where an approved contractor collects them.

Major industries using hazardous substances also have appropriate storage facilities with contingency plans in place to deal with incidents on site, should they occur.

With regard to solid waste disposal, it is anticipated that by December 2005 there will be only one operational landfill in Taranaki at the Colson Road site (New Plymouth). The aim is for this landfill to continue to meet industry best practice standards, to enforce the policy of non-acceptance of hazardous waste, to divert inert material where possible and review its cost pricing policy when necessary. An alternative landfill site has also been identified near Eltham (as one option) for when this site has reached its capacity.

⁴¹ Regional Waste Strategy for Taranaki, February 2004.

7.7.3 Roothing network

In total there are 3853 kilometres of roads in Taranaki, of which 3128 kilometres are sealed. The network is made up of 386 kilometres of state highways and 3466 kilometres of local roads, of which 2992 kilometres are rural local roads (Table 5).

Table 5 Regional roading network⁴²

	Stratford	South Taranaki	New Plymouth	Total
Rural (km)	541.4	1475.7	954.1	2971.2
Urban (km)	40.3	136.3	297.4	474.0
Special purpose roads	14.2	-	6.9	21.1
Total local roads	595.9	1612.0	1258.4	3466.3
			State Highways	386.5
			Total all roads	3852.8

In the Taranaki region there are 158 bridges on state highways (including one single-lane bridge at the Stratford cemetery on SH43) and 668 bridges on local roads, of which 438 are single-lane. This equates to Taranaki roads having a bridge approximately every six kilometres.

Taranaki's extensive roading network provides vital access and communication links to and within the region. High quality roads and an appropriate network of roads is essential for the region's agricultural, petrochemical, forestry and tourism industries, as well as for maintaining access to widely scattered rural communities and large numbers of individual households. This network has developed primarily in response to the needs of these groups, particularly primary producers.

State Highways 3 and 3A link the region with the main centres to the north and south. State Highway 43 provides access to inland centres and the central North Island. State Highway 45 connects coastal residents to New Plymouth and Hawera.

Roading will continue as the dominant infrastructure for passenger and freight transport modes in the Taranaki region, particularly as the basis of the economy will remain orientated towards primary production which cannot, by character, be centralised. The roading network is the most effective way of servicing this region's widespread, low density population.

State Highway 3 is of significant strategic value for Taranaki. It is important to the viability of industries in Taranaki in being able to compete in the North Island market (as well as the overseas export markets), for regional tourism and for access to other services and facilities in major centres to the north and south



Figure 20 Taranaki's State Highway Network

⁴² Transfund New Zealand (2002). Transfund roading statistics 2001/2002. For the year ending 30 June 2002.

of Taranaki.⁴³ State Highway 3 also provides an alternative route in the event of road closures in the central North Island.

7.7.4 Rail network

New Zealand Rail Ltd was privatised in 1993 and became Tranz Rail Ltd in 1995. In May 2004, the company was purchased by Toll NZ which operates both Toll Rail and Toll Tranz Link to provide a nationwide freight and distribution service.

Toll Rail provides freight services over a national rail network throughout New Zealand. Freight is transported on container trains (containerised freight), pack trains (consolidated general freight), bulk trains (coal, logs, milk) and block trains (steel, aggregates and fertiliser). Toll Rail is the sole rail freight operator of the national rail network.

New Zealand's total railway network extends over 4,205 kilometres of main line track, of which approximately 214 kilometres are within Taranaki. The main rail links managed by Tranz Rail, which have been transferred to a new state owned enterprise TrackCo, in this region are:

- Wanganui to Stratford;
- Stratford to Ohahukura (near Taumaranui); and
- a link line between Stratford and New Plymouth (refer to Figure 21).

Toll Tranz Link operates through a network of 17 freight terminals throughout the country (one being in New Plymouth). There are also industrial sidings throughout Taranaki for Fonterra (Whareroa, Kapuni and Moturoa), Ballance Agri-Nutrients (Kapuni), Ravensdown, Shell Todd Oil Services, NGC and Westgate Port Taranaki.

The main freight transported by rail on the Taranaki lines include meat products, fertiliser, dairy products, wood chips and bulk milk. Toll Tranz Link has indicated an increase in both the number and size of freight trains utilised in Taranaki. This can be attributed to:

- increased bulk milk volumes transported from the lower North Island to Fonterra's processing plant at Whareroa;
- an increase in Fonterra's dairy product being exported from Port Taranaki (the product is rail freighted from the Whareroa site to Port Taranaki);
- continued freight of LPG from STOS to various locations out of the region;
- continued freight of fertiliser from Ballance Agri-Nutrients Kapuni out of the region; and

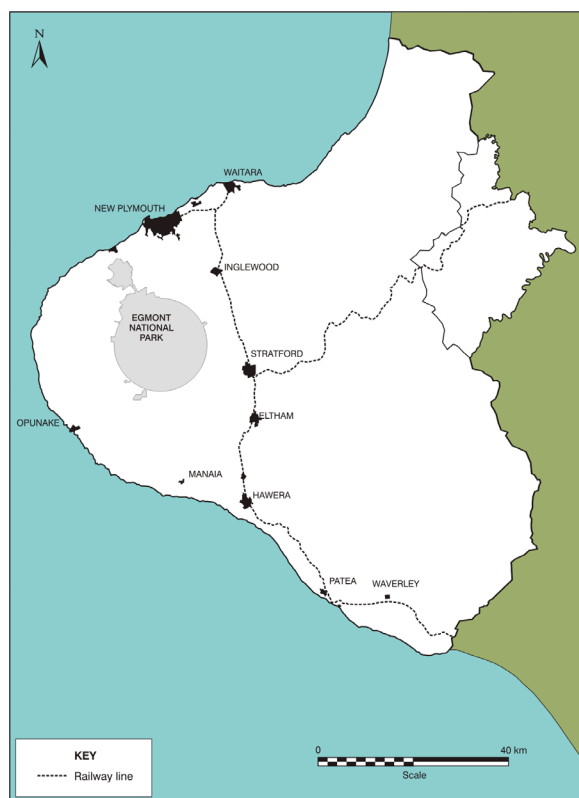


Figure 21 Taranaki's rail network

⁴³ Taranaki Regional Council (2000). *Regional Land Transport Strategy for Taranaki*.

- continued freight of Ravensdown fertiliser from the Awatoto works to Taranaki stores.

There are no passenger or commuter rail services operating within the Taranaki region, with New Plymouth being one of the few provincial cities in New Zealand that does not have a rail passenger link.

Taranaki does however have a privately owned heritage railway. The Waitara Railway Preservation Society Inc purchased the 7½ kilometre rail link from Lepperton Junction to the Waitara township in May 2001, with funding assistance from the Taranaki Electricity Trust and TSB Community Trust. The Waitara link line was the first railway system in Taranaki and it is anticipated the line will operate as a tourist attraction from 2004⁴⁴.

7.7.5 Westgate Port Taranaki

Port Taranaki is the only major deep water port on the west coast of New Zealand. The port is operated by Westgate Transport Ltd and offers nine fully serviced berths for a wide variety of cargoes and vessels. It also provides an official maximum draft of ten metres, though vessels of up to 11 metre draft have been handled, dependent on the circumstances at the time.

In terms of freight tonnes handled, Port Taranaki is New Zealand's second largest export port and fifth largest port overall. In 2003 the total trade volume of the Port was 5.05 million freight tonnes. Major exports for the port during 2002/2003 include⁴⁵:

- methanol exports from Methanex Motunui and Waitara Valley;
- export of 55% of Fonterra Whareroa dairy product;
- log and fertiliser export; and
- crude oils and Liquid Petroleum Gas (LPG).

There are four main wharves at Port Taranaki:

- Moturoa wharf – predominantly dry bulk cargo including fertiliser and coal.
- Newton King Tanker Terminal – handles a wide range of petrochemical products and bulk liquids including crude oils, liquefied petroleum gas and methanol. These products are piped from onshore and offshore sites throughout the region before being pumped to dedicated load-out facilities.
- Blyde Terminal – an integrated cargo handling facility based around a terminal operation on the Blyde complex. It caters for Port Taranaki's growing container trade as well as for general and refrigerated conventionally handled cargoes. It is the port's newest development and reflects growth the port is enjoying as a major point of export for New Zealand dairy products.
- Main breakwater – while the primary purpose of the main breakwater is to protect the harbour from the open sea, it is also a fully operational facility. The berth is primarily used to help provide the operational flexibility required to cater for shipping growth at the port.

7.7.6 Airport

The New Plymouth Airport is the only full commercial air freight and passenger airport in Taranaki. Current commercial air traffic through the airport is provided on a scheduled basis by Air New Zealand Link and Origin Pacific Airways, utilising various aircraft with

⁴⁴ Pers. Comm. Graeme Goldsworthy, Waitara Railway Preservation Society Inc.

⁴⁵ Westgate Transport Limited (2002). *Annual Report on Westgate Transport Limited 2002*.

seating capacities ranging from 19 to 33 passenger seats. The advent of smaller aircraft and higher frequencies of operation has virtually stopped the operation of freight carriage at smaller airports such as New Plymouth. For the last several years freight tonnage has been steady at about 120 tonnes per annum, mostly in courier packages and/or excess baggage.

There are three runways available to air traffic – the main sealed runway (1310 metres in length) and two grass runways (1200 and 1000 metres in length). The main sealed runway is capable of operating civilian aircraft up to Boeing 737-200 series size (with some load restrictions). The RNZAF fleet of Hercules transports are also able to operate from both grass and sealed runways, with advice from the RNZAF indicating that the newly acquired Boeing 757 fleet is capable of operating from New Plymouth.

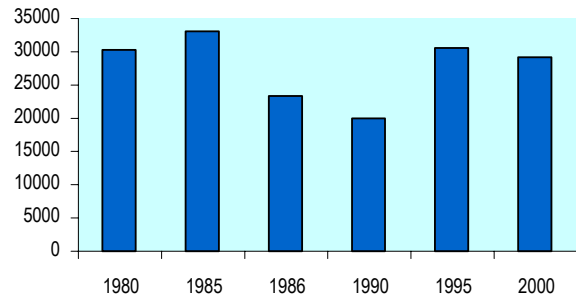


Figure 22 New Plymouth airport, aircraft movements

Aircraft movements recorded at New Plymouth Airport identified fluctuations over time, with a strong correlation between the number of aircraft movements and project activity in the region. Figure 22 demonstrates these fluctuations – the two high points of the graph (1985 and 1995) link with the end of the ‘Think Big’ era in Taranaki (1985) and the Kiwi Co-operative Dairies Ltd expansion project (1995). Passenger movements have increased since 1991, with significant increases recorded with the introduction of Origin Pacific flights in 1999 and Air New Zealand’s express class fares in 2002.

The New Plymouth Airport expects to double passenger numbers over the next 20 years as a result of larger aircraft and higher utilisation of services. There is also an increase in the use of air ambulance services into and out of New Plymouth as a result of changes in the operation of the Taranaki District Health Board. Other airfields in the region that are large enough to accommodate twin engine cargo planes if grass runway conditions are suitable to land on include Hawera, Stratford and Norfolk Road (with a number of private airstrips throughout Taranaki available for top dressing aircraft).

7.7.7 Electricity generation and transmission

Most of Taranaki’s electricity supplies are sourced from the major electricity generators and distributed throughout the country by both Transpower NZ Ltd via the National Grid and by local distribution network companies to electricity retailers and end users. The major generation facilities based in Taranaki include the New Plymouth Power Station and the Stratford (Taranaki) Combined Cycle Power Station. Four smaller local hydroelectric powered

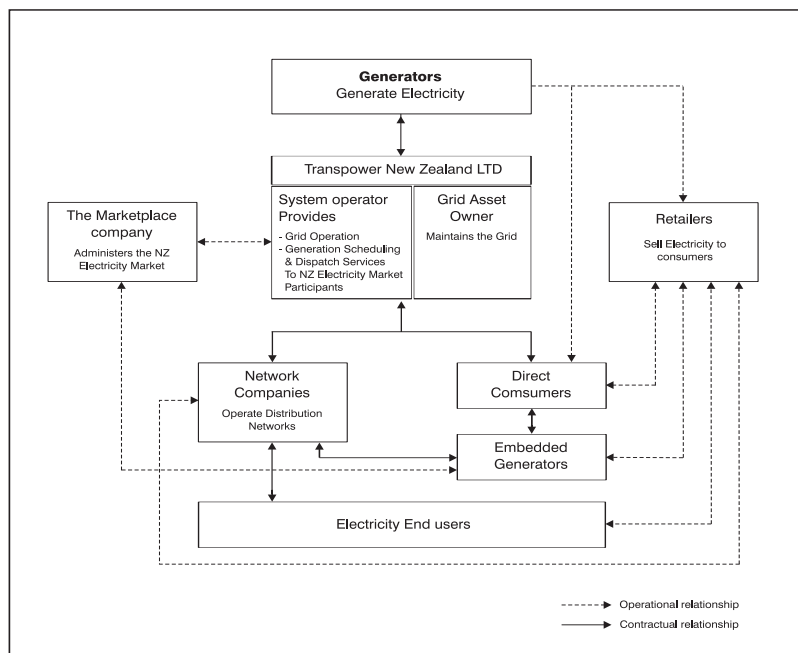


Figure 23 Diagrammatic representation of the electricity industry

schemes include the Mangorei, Patea, Motukawa and Waiaua hydroelectric power schemes.

Figure 23 demonstrates the complexity of the New Zealand electricity market. From an emergency management perspective, the Taranaki CDEM Group is mostly interested in the sector's ability to maintain or restore services to users.

Direct consumers of electricity from the National Grid in Taranaki include companies such as Methanex and Fonterra. Electricity end users are typically connected to a network distribution companies electricity network, such as that operated by Powerco in Taranaki. End users may choose to purchase their electricity through different retailers of electricity but it is still delivered via the distribution company.

On this basis, the focal point for meeting the CDEM Group's objective of maintained or restored electricity services to users will be the network company (or companies) operating within the Group's area.

New Plymouth Power Station

New Plymouth Power Station (NPPS) is owned and operated by Contact Energy and is located at Port Taranaki, New Plymouth. The station has a variable capacity of 45MW – 420MW from 4 x 105MW units using natural gas, heavy fuel oil or a combination of both. Natural gas is sourced mainly from the Maui gas field with a small quantity coming from the TAWN fields (Tariki, Ahuroa, Waihapa and Ngaere). A maximum 63,000 litres of heavy fuel oil is stored in 2 tanks on site, which would yield a minimum 24 days generation (assuming full tanks).

The station is reliant on water supplied from NPDC to produce the steam in the boilers. Two-five days water supply is stored in 2 x 1 million litre tanks above the station. An emergency supply along Breakwater Rd is also available, however water quality would be an issue.

NPPS feeds its power into the national grid via the Stratford substation at 220,000 volts, the Carrington Street substation at 110,000 volts, and/or the Moturoa substation at 33,000 volts. The station has an owner's infeed supply of 33,000 volts from the Transpower network, of which 4MW is required for auxiliary power during cold start up of the first unit and also during major plant outages. While the station is capable of operating in island mode there is no 'black start' capability.

NPPS is staffed 24hrs a day with a minimum of 3 staff during night time hours and approximately 40 staff during daytime hours. Maintenance and protection checks are carried out on both the mechanical and electrical plant on a regular basis to ensure plant reliability and electrical supply integrity is maintained at its optimum, as well as to satisfy regulatory requirements.

Taranaki Combined Cycle Power Station

The Taranaki Combined Cycle (TCC) Power Station is owned and operated by Contact Energy and located on East Road, 2 kilometres from Stratford. The station became fully commercial in 1998 and has a net average capacity of 354MW and fuel efficiency of 57.5%. TCC utilises gas turbine technology to obtain its high fuel efficiency rates and is fired by natural gas. The fuel supply is sourced mainly from the Maui gas field with a small quantity coming from the TAWN fields (Tariki, Ahuroa, Waihapa and Ngaere).

TCC feeds its power into the National Grid via the Stratford switchyard at 220,000 volts. The station has an owner's infeed supply of 400 volts which is fed via the local area distribution system. This supply is used for auxiliary power during major plant outages. However, if this supply is not available onsite diesel generators can supply the plant with auxiliary power and has full black start capability. The station is also capable of operating in island mode.

TCC is staffed 24hrs a day with a minimum of 2 staff during night time hours and approximately 16 staff during daytime hours. Maintenance and protection checks are carried out on both the mechanical and electrical plant on a regular basis to ensure plant reliability and electrical supply integrity is maintained at its optimum.

Electricity distribution

Transpower New Zealand Ltd is a State Owned Enterprise that owns and operates New Zealand's high-voltage electricity transmission grid – the National Grid. The National Grid connects the power stations owned by generating companies to substations feeding the local networks that distribute electricity to homes and businesses. Some large industrial users of electricity also receive their power directly from the National Grid. Figure 24 identifies the location of the high-voltage transmission lines in Taranaki.

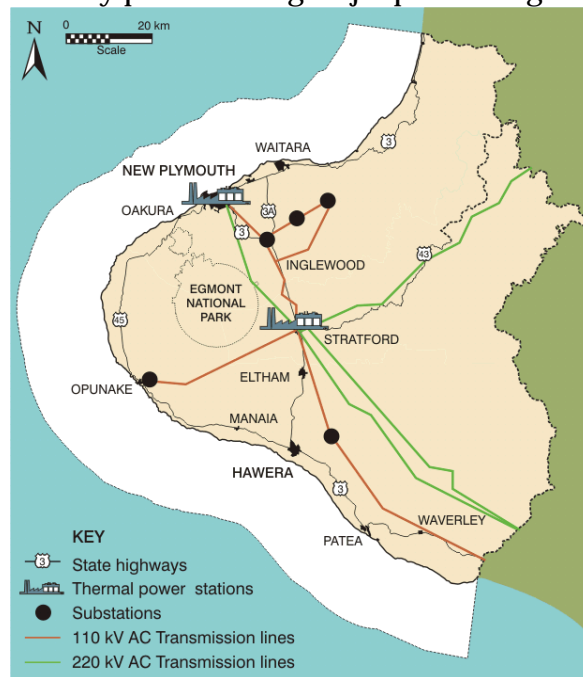


Figure 24 Map of the National Grid in Taranaki

Powerco owns and operates the electricity sub-transmission and distribution networks in Taranaki (both urban and rural). The networks comprise sub-transmission (33 kV) networks supplying 21 zone substations throughout Taranaki. These substations reduce the voltage from 33kV to lower distribution voltages (11kV or 6.6kV). Radial distribution networks run from the zone substations throughout the service areas.

Distribution transformers ranging in capacity from 15kVA to 1500kVA are installed throughout the network to transform the voltage from 6.6kV or 11kV to 400V. In rural areas transformers are generally less than 100kVA and are pole mounted. In urban areas they are generally ground mounted and average 200 to 300kVA. Larger transformers are used at industrial user sites and more dense commercial areas.

7.7.8 Oil and gas production and distribution

Oil and gas production

Swift Energy NZ Ltd produces oil and gas from two areas in Taranaki – the TAWN (Tariki, Ahuroa, Waihapa and Ngaere) field and the Rimu/Kauri fields.

The TAWN field is located generally to the east of Stratford. Flow lines connect the various wells to the Waihapa Production Station located on Bird Road, where the oil and gas are separated and treated. Two pipelines run from the Waihapa Production Station to Port Taranaki in New Plymouth. These are used to export oil and to supply gas to the Contact

Energy power stations at Stratford (TCC) and New Plymouth. LPG is also transported from the Waihapa Production Station by road tanker. The Waihapa Production Station is reliant on power supply from the Stratford Sub-Station to operate, with no back up power supply.

The Rimu and Kauri fields are located near Mokoia and Manutahi (south east of Hawera). Flow lines from the various wells run to the Rimu Production Station, which is located on Mokoia Road. Treated gas is piped to the nearby NGC transmission pipelines, while oil is transported by tanker to the Waihapa Production Station. LPG is also transported from the Production Station by road tanker. The Rimu Production Station has the ability to generate power for plant operations, as well as exporting power into the local Powerco network.

The McKee field is another oil and gas production field located on the Otaraoa Road, Waitara. Oil is shipped via pipeline to the Omata Tank Farm near New Plymouth for export, while the gas is compressed for gas-lifting the oil wells or for export to the gas reticulation network.

Gas distribution

The Powerco gas network in Taranaki supplies customers from Waitara in north Taranaki to Waverley in south Taranaki. Comprising approximately 730km of distribution mains, the network serviced approximately 20,700 gas customers (as at April 2002).

Powerco gas networks in Taranaki consist of polyethylene coated steel pipes and polyethylene pipes. The steel pipes are used for intermediate pressure gas networks operating pressures between 1200kPa – 1500kPa. Polyethylene pipes are generally used for medium pressure gas distribution networks operating pressures between 220kPa – 400kPa.

High pressure petroleum pipelines

NGC manages all the petroleum pipelines in Taranaki, some of which are owned by other companies. Figure 25 shows the approximate location of the pipelines and the products transported.

The pipeline system provides essential links both within the Taranaki oil and gas industry (linking production stations, processing plants, and storage and export facilities), as well as direct oil and gas distribution for national power generation and industry.

Taranaki gas is distributed via high pressure gas pipelines to the natural gas fuelled power stations at Southdown (Papakura), Otahuhu, Huntly, New Plymouth and Taranaki Combined Cycle (Stratford). The Southdown Power

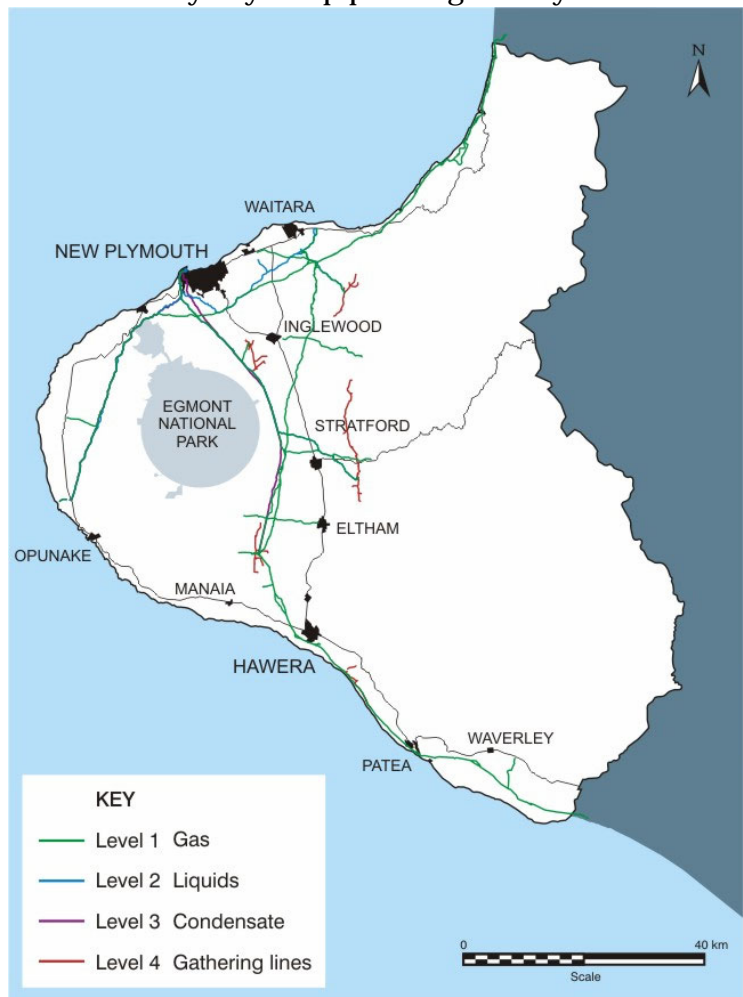


Figure 25 Schematic of pipelines in Taranaki

Station is owned by Mighty River Power, Huntly Power Station by Genesis Power and the Otahuhu, New Plymouth and Stratford Power Station's by Contact Energy.

The major Taranaki industries (identified in Figure 25) that use oil and gas in their operations include:

- Taranaki By-Products Ltd rendering plant (gas)
- Methanex Waitara Valley Ltd methanol plant (methanol and gas)
- Methanex Motunui Ltd methanol production facility (methanol and gas)
- Ballance Agri-Nutrients Kapuni Limited ammonia urea plant (gas)

7.7.9 Telecommunications network

The telecommunication networks in Taranaki are consistent with the majority of the systems available throughout provincial New Zealand i.e. public switch telephone network, internet access and cellular coverage (provided in the more populated areas) etc.

With regard to Broadband access, a Telecom/Venture Taranaki/iTaranaki joint initiative has fast-tracked the installation of Asymmetric Digital Subscriber Line (ADSL) technology to 15 Taranaki telephone exchanges in order to provide broadband coverage to approximately 83% of all the regions subscribers. At the time of Group Plan preparation, Telecom was also partnering with Broadcast Communications Limited (BCL) to develop a wireless solution to the remaining 17% of customers in the more remote/rural areas.

Radio Telephone (RT) networks are also provided within Taranaki, with the bulk of commercially available RT services located on Mount Taranaki/Egmont. Emergency services RT networks are also based on Mount Taranaki, whilst the civil defence emergency management networks are not.

7.8 Services

7.8.1 Health services

A variety of health services operate in Taranaki, each of which have some role or responsibility with regard to civil defence emergency management. It is therefore important that the responsibilities of these organisations are clarified to reduce duplication of effort, as well as ensuring that a more co-ordinated approach to emergency management occurs.

Hospital services

The following hospitals offering general services in Taranaki include:

- Taranaki Base Hospital (TDHB)
- Hawera Hospital (TDHB)
- Southern Cross Hospital (Southern Cross)

Taranaki District Health Board (TDHB) funding dictates that TDHB hospitals provide a first response in the event of a major incident or

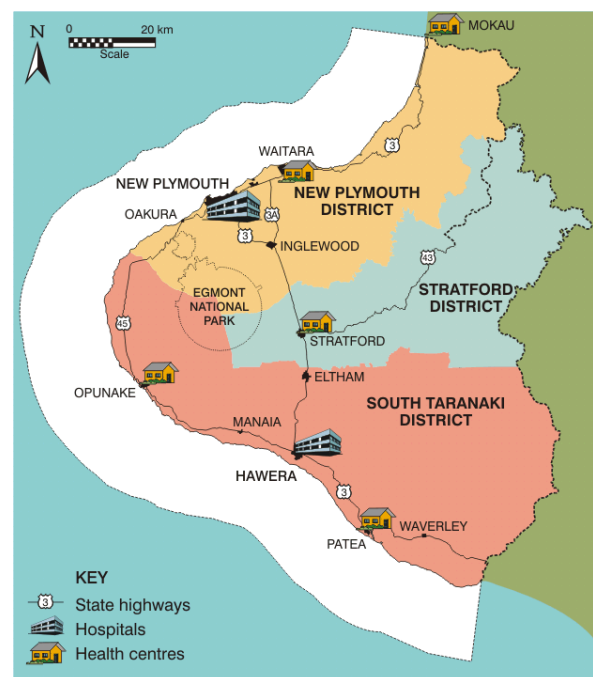


Figure 26 Key medical facilities in Taranaki

disaster. The Southern Cross Hospital may be called upon to assist the TDHB hospitals during a large scale emergency, as would other District Health Board facilities and private hospital facilities outside the region.

The ability of the Southern Cross Hospital to respond may be restricted by the availability of surgeons who have a dual role at both Southern Cross Hospital and any TDHB hospitals.

Health and medical centres

There are five health centres located throughout the region - Stratford, Patea, Opunake, Waitara and Mokau.

Primary health care in the region is provided through various health and medical centres. In every town or city a medical practice has been identified to act as an Emergency Medical Centre in any emergency situation and is contracted to the TDHB to provide such services.

Pharmacies

Pharmacies are located throughout the region. TDHB maintains a current database of all pharmacies and will ensure that they have a business continuity plan to guide them through any emergency or major incident. In any major incident there will be the expectation by the community that pharmacies will open for primary health care and any business continuity plan should include this expectation. Furthermore, pharmacies need to meet the health care needs of people by:

- replacing missing medication;
- providing information and advice to the public; and
- providing limited health screening capabilities.

Long stay hospitals, rest homes and retirement homes

The TDHB maintains a database of privately managed facilities for long term hospital care, rest homes and retirement homes which are located throughout the region.

These facilities endeavour to maintain high occupancy rates. Their contingent capability to accommodate extra residents is therefore limited and must be ascertained at the time of need. Should any long stay hospital, rest home or retirement home be disabled in an incident, the public hospitals may only accept injured patients. Private facilities should also have adequate plans in place to transport non-injured patients to similar facilities in unaffected areas. A current strategy is to also deliver health care and home help to people (in need) in their own homes rather than moving people into long term residential care. In the event of a large scale emergency which restricts public mobility, emergency health care services may have to provide some service to this group of people.

Use of Resources

All private health facilities have the same status, in the eyes of the TDHB, as private homes and their resources will only be used when:

- a reciprocal agreement to do so has been reached between the private health facility and the TDHB; or
- a requisition has been made by the Group Controller.

Primary care in the community

After most major disasters, the majority of people injured will have non-acute symptoms or injuries from the event. This means that these people should and could be treated in their own community through primary care organisations, while hospitals are reserved for acute cases.

TDHB Public Health Service

The objective of public health protection is to protect the health of the affected population by environmental controls and maintenance of health standards. This is achieved by inspection, surveillance, co-ordination and advice by the local district health boards (i.e. the Taranaki District Health Board).

Public health protection in the event of an emergency is to provide advice and co-ordination for:

1. Rapid identification, evaluation and communication of present and potential health hazards that could arise from different types of disaster.
2. Measures to control or eliminate public health hazards and to protect affected populations.
3. Appropriate mobilisation and co-ordination of all public health facilities and services.
4. Maintenance and analysis of public health status information within the disaster area.

Taranaki District Health Board Mental Health Services

The TDHB Mental Health Services primary role is assisting with counselling in the community, as required and advised by the Child Young Persons and Family Service (CYF) who is the lead agency for co-ordination of counselling during a local emergency.

7.8.2 Emergency services

Emergency service departments have a specific role to play in CDEM planning and delivery and include the:

- New Zealand Fire Service
- New Zealand Police
- Ambulance Service

The functions and responsibilities of each of these emergency services are outlined below.

New Zealand Fire Service

The New Zealand Fire Service has been established pursuant to section 3 of the Fire Service Act 1975. The service provided, including the establishment of fire districts pursuant to section 26, is therefore defined in this statute.

There are 17 fire districts in Taranaki as shown in Figure 27. In addition to these fire districts, there are also two fire brigade auxiliary units

in the rural areas of Toko and Rahotu, allowed for under section 35 of the Fire Service Act. The New Plymouth station is a paid station staffed 24-hours a day by professional fire fighters. All others are stations staffed by volunteer fire fighters.

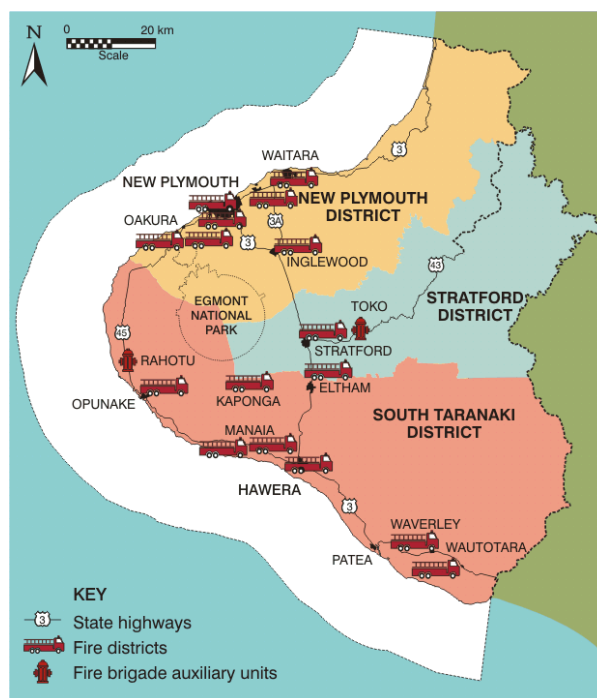


Figure 27 Taranaki fire districts and fire brigade auxiliary units

The functions, powers and duties of the Chief Fire Officer during an emergency involving fire or hazardous substances are outlined in section 28 of the Fire Service Act 1975.

New Zealand Police

Policing in the Taranaki region is provided by the two policing areas of **New Plymouth** and **Taranaki Rural** (see Figure 28). The police officers duties include the response to emergency incidents, and also criminal and traffic policing. The officers work closely with their communities and often work together with other emergency services within Taranaki.

The police staff in the New Plymouth area are assisted by both paid and voluntary civilian staff. The boundary of the New Plymouth police area follows to a large degree, that of the New Plymouth District Council with minor variations in the extreme north and south western areas. The main police station is located in central New Plymouth, with five other community police stations in the nearby city area. Other stations are also situated at Waitara, Mokau, Inglewood and Okato.

The Taranaki Rural Area Commander for the Police is stationed at Hawera and is supported by police staff and also a number of paid and voluntary civilian staff. The boundary of the Taranaki Rural police area follows to a large extent, the South Taranaki (with the variation that it does not include Waverley) and Stratford District Council boundaries. Police stations in this area are also situated at Stratford, Eltham, Manaia, Patea and Opunake.

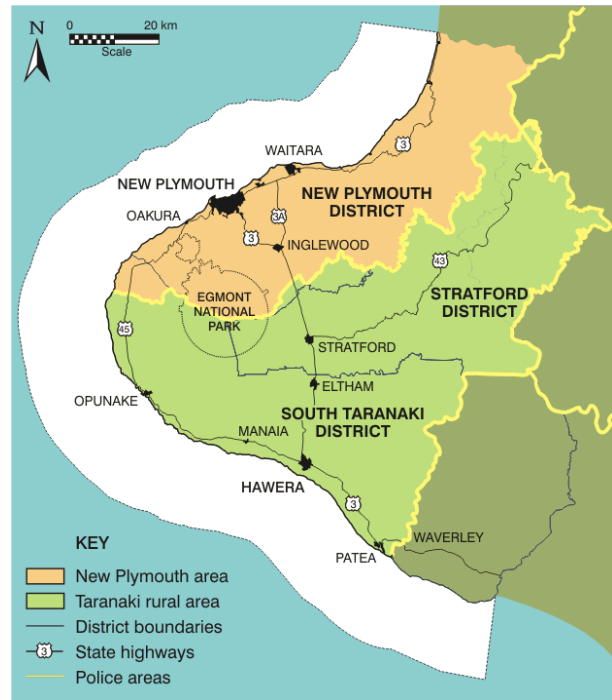


Figure 28 Taranaki policing areas

Taranaki District Health Board Ambulance Service

The Ambulance Service consists of both paid staff and volunteer Ambulance Officers throughout the CDEM Group area. Ambulance stations are based at New Plymouth, Inglewood, Stratford, Hawera, Opunake and Patea. There are also Ambulance First Responder teams at Waitara, Urenui and Whangamomona.

The vehicle fleet typically consists of road ambulances, a 4WD Rescue Ambulance, a 10 seater transport van and Executive/Paramedic fully equipped response cars at New Plymouth and road ambulances at Inglewood, Stratford, Hawera, Patea and Opunake. There is also a first response car at Waitara and another volunteer response team at both Urenui and Whangamomona.

The ambulance service operates as a regional resource, centred on a Communications Centre at Taranaki Base Hospital which (at the time of Group Plan preparation) receives all 111 calls for the TDHB district. The National Multiple Casualty Incident Plan can only be activated by the Ambulance Service which enables additional ambulance and air rescue resources from neighbouring districts to assist in an emergency. The TDHB has a Memorandum of Understanding with the Taranaki Rescue Helicopter Trust to utilise the twin engine Squirrel rescue helicopter. The helicopter provides single patient transport only, but allows fast and remote access in emergencies.

A Memorandum of Understanding also exists between the TDHB and the Order of St John Taranaki Community Services to enable the use of their services and first aid vehicles (approximately five) in an emergency.

TDHB has the PRIME (primary response in medical emergency) service in operation. This service ensures general practitioners in the rural areas of Inglewood, Stratford, Eltham, Opunake and Hawera are available and trained to assist in the pre hospital emergency care arena. These doctors are paid to be available to attend emergencies when required which improves the expertise offered in these areas.

7.8.3 Search and rescue

Search and rescue operations in New Zealand are separated into three main categories as follows:

- land searches;
- small area sea searches close to shore; and
- wide area sea/air searches.

The first two categories are the responsibility of the New Zealand Police, who may use their own resources or call on volunteer assistance. Separate volunteer organisations also exist for the land (New Zealand Land Search and Rescue) and sea (Royal New Zealand Coastguard) operations. Wide area searches (and those for aircraft within NZ) are the responsibility of the Civil Aviation Authority.

New Zealand Land Search and Rescue

New Zealand Land Search and Rescue (NZLSAR) was formed in 1994 and replaced the Federated Mountain Clubs Search and Rescue (SAR) subcommittee. This has led to the formation of regional SAR committees of New Zealand Police and volunteers.

New Zealand Land Search and Rescue Inc. is made up of the following organisations:

- Federated Mountain Clubs of New Zealand;
- New Zealand Speleological Society;
- Mountain Safety Council;
- New Zealand Police;
- Department of Conservation; and
- regional representatives from the regional SAR committees.

New Zealand Urban Search and Rescue

New Zealand Urban Search and Rescue (NZ USAR) is a multi-agency operational framework administered by the New Zealand Fire Service and Ministry of Civil Defence & Emergency Management. Urban Search and Rescue (USAR) involves the mobilisation of resources to locate and remove trapped and often injured victims from collapsed structures or environments, bringing together an integrated response of personnel, equipment, communications and logistical support.

New Zealand's USAR national operational capability is made up of Regional Response Teams and a national NZ USAR Task Force with teams based in Palmerston North, Christchurch and Auckland (i.e. a rapid-response national resource). The New Zealand Task Force teams are for 'medium rescue'.

Alternatively, the New Zealand Response Teams deal with 'light rescue' and can also be used as a national resource from a nation wide call out system. There are currently nine

rescue teams with a further six to be registered, including one in Taranaki. The USAR programme also integrates specialists such as engineers and search dog capabilities’.

Royal New Zealand Coastguard

The Royal New Zealand Coastguard provides New Zealand's primary maritime search and rescue service. The Coastguard operates from a network of 65 affiliated units, strategically located around the coastline and major lakes of New Zealand. There are four affiliated units in Taranaki, including:

- Coastguard Air Patrol Taranaki Flight;
- Cape Egmont;
- South Taranaki; and
- Taranaki.

Coastguard search and rescue resources are split into three major areas – rescue vessels on the water, radio operators on the marine VHF channels and air patrol units who provide vital air search services.

The Coastguard Air Patrol's main task is air surveillance during a marine search and rescue incident. The New Plymouth Coastguard Air Patrol is one of nine air patrols based in strategic locations around New Zealand. The Air Patrol operates out of the New Plymouth Aero Club and utilises their planes.

7.8.4 Taranaki Rescue Helicopter Trust

The Taranaki Rescue Helicopter Trust operates a rescue helicopter, based at Taranaki Base Hospital and is on call 24 hours a day, 365 days per year. The helicopter normally responds with a pilot, paramedic and crewman, although this configuration can change, depending on the mission. The crew are alpine and marine trained, and are capable of flying up to 100 miles offshore and to most locations onshore. The helicopter can also transport both stretcher or seated patients.

The Trust also leases an aeroplane from Air New Plymouth for inter hospital transfers. This is known as the TET Air Ambulance and can also transport both stretcher or seated patients. This service operates out of a hangar at the New Plymouth Airport.

7.8.5 Government departments

Government departments have a specific role to play in civil defence emergency management planning and delivery. The following (in alphabetical order) have key roles:

Child, Youth and Family

Child, Youth and Family staff manage a wide range of services to carry out statutory and preventative social work practice. This includes working with families and whanau, community agencies and other professionals to:

- protect children;
- manage young offenders;
- ensure that children in need are secure and cared for;
- help families maintain and strengthen their child-rearing role; and
- facilitate the adoption process.

Child, Youth and Family also fund and support a wide range of community-based social services, with a focus on children, young people and families in need of support. Child,

Youth and Family have regional offices in New Plymouth and Hawera and two family homes in New Plymouth.

Child, Youth and Family services have accepted the mandate for the co-ordination of counselling services in the event of an emergency.

Department of Conservation

The Department of Conservation (DOC) is the government organisation charged with conserving the natural and historic heritage of New Zealand on behalf of, and for the benefit of, present and future New Zealanders. The Department of Conservation's mission is "to conserve New Zealand's natural and historic heritage for all to enjoy now and in the future".

The Department manages or administers on behalf of New Zealand's national and conservation parks, reserves and conservation areas, protected indigenous forests, protected inland waters, scenic rivers, indigenous/native wildlife, non-commercial freshwater fisheries, historic places on conservation land and marine reserves. Taranaki forms part of the Wanganui conservancy with area offices in both New Plymouth and Stratford. The main conservancy office is in Wanganui.

Should any civil defence emergency event occur in either the Egmont National Park or Sugar Loaf Islands Marine Protected area DOC will be involved in any CDEM planning and response as managers of those areas. DOC also has a representative on the Egmont Volcano Advisory Group.

Housing New Zealand Corporation

Housing New Zealand Corporation provides access to homes, helping New Zealanders manage their own circumstances and contribution to community life. The Corporation was established in July 2001 and has two key roles:

- to deliver housing assistance to those in greatest need; and
- to be the principal adviser to the Government on housing and housing policy.

A Housing New Zealand Corporation Neighbourhood Unit is located in New Plymouth, with a Heartland Service Centre in Hawera. Housing Corp has a national mandate for the co-ordination of housing needs in the event of civil defence emergency.

Inland Revenue Department

The Inland Revenue Department (IRD) collects the bulk of the revenue Government needs to fund its programmes and has the responsibility of collecting taxes on behalf of, and for, the community. As a result, the IRD has the responsibility to safeguard the community's interests by ensuring taxpayers contribute by paying the correct amount of tax.

Inland Revenue have offices in New Plymouth and Hawera. Their mandate in the event of an emergency is to maintain essential services for the assessment, forecasting and collection of Crown revenue and provide an assessment of the impact of the event on Crown revenue collection, as well as to arrange for the continuation of Family Support and Child Support payments to the public.

Local Government

The functions and objectives for local government are established under the Local Government Act 2002. Under section 10 of this statute the purpose of local government is

defined as follows:

- to enable democratic local decision-making and action by, and on behalf of, communities; and
- to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future.

Local government organisations in New Zealand can be split up into regional councils, district councils and unitary authorities. In Taranaki this includes the Taranaki Regional, New Plymouth District, South Taranaki District and Stratford District Councils.

In general, the responsibilities of the Taranaki Regional Council include the:

- resource management of water, land, air and the coast;
- pest management for both animal and plant pests;
- pollution monitoring and response;
- hazard and emergency management;
- transport planning and passenger transport;
- river control and flood protection;
- improvement, promotion and protection of public health within its district;
- coastal navigation and safety; and
- port company ownership.

For each of the district councils, responsibilities include the:

- integrated management of the effects of land use, development, or protection;
- hazard avoidance or mitigation;
- control of the storage, use, disposal or transportation of hazardous substances;
- control of the subdivision of land;
- noise control and mitigation;
- control of surface water activities in rivers and lakes; and
- provision of community services and utilities.

Each of these four local government organisations also provide extensive local knowledge and experience to the general public, as and when required. This is largely due to their involvement in various community services and development (e.g. roading, swimming pools, libraries etc.).

Maritime Safety Authority of New Zealand

The Maritime Safety Authority of New Zealand (MSA) is a Crown entity established to promote a safe and clean maritime environment at reasonable cost. The key role of MSA is to:

- develop and monitor compliance with maritime safety and environmental protection standards;
- issue seafarer licences;
- provide coastal aids to navigation and maritime distress and safety radio services;
- investigate and analyse the causes of maritime accidents; and
- to prevent and respond to marine oil pollution incidents in NZ waters.

The MSA have a New Plymouth district office at Port Taranaki. Their mandate in the event of an emergency is to:

- Provide maritime related transport advice to the Ministry of Transport at a national level during an emergency.

- Rapidly identify and locate maritime transport resources available.
- Make available any communications capacity available in and contracted to the Maritime Safety Authority, and on vessels suitably equipped and willing to co-operate.
- Assist in logistics planning as required.
- Make available to CDEM organisations any equipment which could be useful in emergencies.
- Provide representation as required at the National Emergency Operations Centre (NEOC), and when requested, to CDEM organisations.

Ministry of Agriculture and Forestry

The Ministry of Agriculture and Forestry (MAF) provides the Government and rural sectors with information, analysis and advice on agricultural and forestry issues. There are four branches of MAF – MAF Biosecurity Authority, MAF Forest Management Group, MAF Policy and MAF Quarantine Service.

MAF Quarantine Services have an office in New Plymouth.

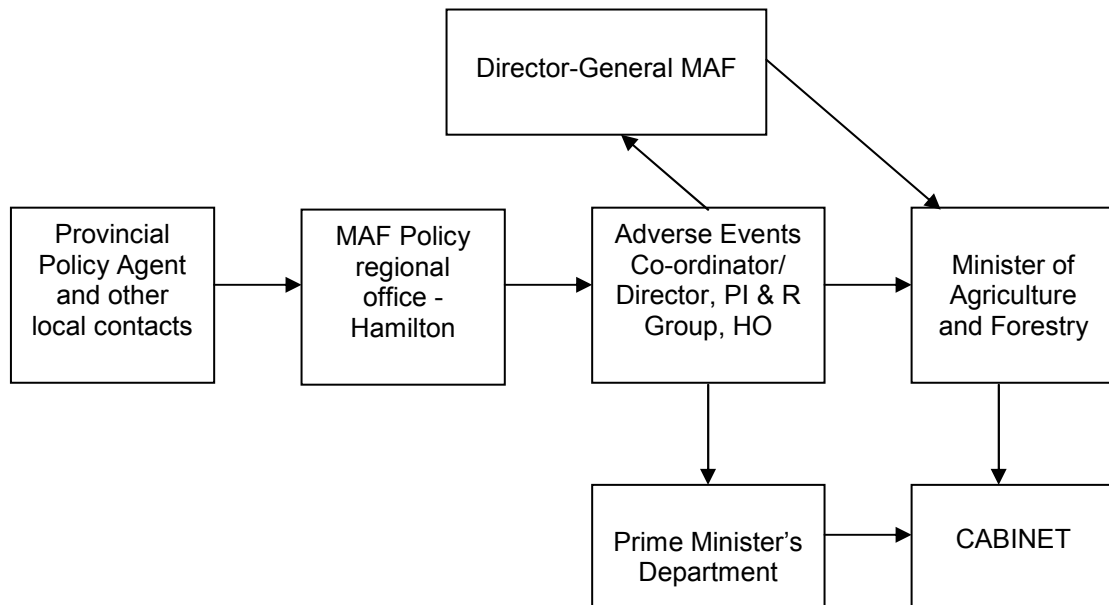


Figure 29 MAF policy emergency management reporting structure

MAF has a key role in CDEM response and co-ordination in rural areas or where there are effects on agriculture and forestry. Their policy emergency management reporting structure is identified in Figure 29.

Ministry of Education

The Ministry for Education's purpose is 'Empowering Education'. The Ministry's role is to therefore facilitate education that enables people to gain knowledge, skills and attitudes so that they can participate fully (socially and economically) in the community. The Ministry aims to create an education system that can respond quickly and effectively to wider social and economic impacts and the needs of different communities, society and employers.

The district office of the Ministry of Education is in Wanganui, with Special Education district offices in both New Plymouth and Hawera. In the event of an emergency the Ministry, in conjunction with education governing bodies, is to make available resources (for example, the use of buildings) within or close to the affected area to enable CDEM organisations to care and account for victims.

Ministry of Health

The Ministry of Health is the Government's principal agent and advisor on health and disability. It develops policy advice for the Government on the following:

- health and disability issues;
- administers health regulations and legislation;
- funds health and disability support services;
- plans and maintains nationwide frameworks and specifications of services;
- monitors sector performance; and
- provides information to the wider health and disability sector, as well as the public.

The New Zealand Public Health and Disability Act 2000 is the key statute directing Ministry responsibility for the health of local populations, and for ensuring that the needs of individuals and communities are represented at a local level. The Taranaki District Health Board (refer to section 5.4.7) is the mechanism by which the Ministry both funds primary health care services and provides hospital services in the Taranaki community.

New Zealand Customs Service

The New Zealand Customs Service (Customs) is the government agency responsible for protecting the community from potential risks arising from international trade and travel, while facilitating the legitimate movement of people and goods across the border.

Customs exist to protect and enhance the interests of the New Zealand community by:

- minimising the risks to the country arising from international trade and travel;
- facilitating legitimate movement of people and goods across our borders; and
- collecting Customs and excise revenue.

Customs work closely with the other border agencies, the Ministry of Agriculture and Forestry Quarantine Service, and the Immigration Service to maintain and advise on border protection and import/export controls. In the event of an emergency they are to also make available customs protection resources and assist with the expeditious customs clearance of relief aid from overseas. A Customs office is located in New Plymouth, with Customs Officers working closely with Westgate Transport Ltd at Port Taranaki.

New Zealand Defence Force

The mission for the New Zealand Defence Force is to secure New Zealand against any external threat, to protect our sovereign interests (including the Exclusive Economic Zone), and to be able to take action to meet likely contingencies in New Zealand's area of strategic interest.

The Defence Act 1990 provides for armed forces to be raised and maintained for:

- the defence of New Zealand and the protection of its interests;
- the contribution of forces under collective security treaties, agreements or arrangements; and
- the contribution of forces to the United Nations, other organisations or states for operations in accordance with the principles of the United Nations Charter.

The Defence Act also allows the Armed Forces to be made available for the performance of public services and assistance to the CDEM Group in time of emergency, either in New Zealand or elsewhere.

The New Zealand Defence Force includes the Royal New Zealand Navy, New Zealand Army and Royal New Zealand Air Force all operating as 'Three Services - One Force'.

Work and Income

The role of Work and Income New Zealand is to help people find work – and to provide income support when it's needed.

Work and Income works with local communities and client groups to ensure it meets the diverse range of needs of local labour markets. Work and Income operates under a model of regional flexibility - local solutions to local needs. This means that different programmes and pilots may be offered in particular parts of the country or to particular client groups.

Work and Income has a regional office in New Plymouth, managed by a Regional Commissioner. There are also service centres in Hawera, New Plymouth, Stratford and Waitara. In the event of an emergency they will arrange for the continuation of normal benefits and pensions, co-ordinate emergency payments and other emergency financial assistance, identify labour for response and recovery purposes, and provide (on request, advice on welfare issues and activities to the NEOC and CDEM organisations.

7.8.6 Welfare groups

With the separation of the traditional civil defence activities into two clear aspects, strategic advice and direction by the Group Controller and the provision of a co-ordinated emergency welfare response by the Welfare Manager, it is appropriate to provide an overview of the lead non-government organisations (NGO's) involved in welfare response. The following NGO's have accepted national mandates for emergency welfare functions.

New Zealand Red Cross

New Zealand Red Cross is dedicated to the protection of human life and dignity by the alleviation of suffering. Red Cross provides emergency social services during an emergency event. These include maintaining essential supplies and running a national disaster victim enquiry service, together with other activities set out in their emergency management policy.

New Zealand Red Cross operates from a Wellington based national office and six regional offices. The East-West region covers Taranaki, Manawatu/Horowhenua, Wanganui and Hawkes Bay with the Regional Director based in Palmerston North. There is also a Red Cross centre in New Plymouth.

Salvation Army

The Salvation Army is a worldwide church and social services organisation, modelled on quasi-military lines. The territorial headquarters for the Salvation Army, Fiji and Tonga is located in Wellington and the Territorial Commander is the leader responsible for all Salvation Army operations within those geographical boundaries.

'Divisions' and 'corps' operate below territorial level, with the Hawera, Central Taranaki and North Taranaki Corps reporting to the Midland Division in Hamilton. Salvation Army have accepted the national mandate to, where possible, co-ordinate and provide catering facilities during an emergency.

7.9 Key Features of Taranaki for CDEM

In summary, the following are key features of Taranaki with regard to civil defence emergency management:

- A variety of landforms, physical features and a temperate climate - with few climatic extremes.
- Reliance of the Taranaki economy on natural resources – agriculture, oil and gas (which are of national importance), forestry etc.
- The importance of surface water resources for community water supply, industry and agriculture, in Taranaki.
- A concentration of population in north Taranaki, but also a dispersed rural population and a number of small rural service towns.
- Taranaki's relative geographic isolation, which makes the region more vulnerable to disruptions from hazards.
- A well established civil defence emergency management system with good working relationships between relevant agencies and organisations.
- A well developed infrastructure of: road, rail, urban water supply, sewerage and stormwater systems, electricity generation and transmission, telecommunications, oil and gas production and distribution, deep water port and airport.
- A range of locally based health and emergency services, as well as other services provided by central government departments, local government organisations and welfare groups.

