Hastings District Council: Te Kaunihera o Heretaunga

2014 State of the Environment Report: 2014 Te tō te taiao

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HASTINGS
DISTRICT COUNCIL

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We have great pleasure in presenting to you, the first State of the Environment Report for the Hastings District. The Report is a snapshot of the Hastings District detailing current environmental conditions and the interaction between the people and the environment as at 31 December 2014.

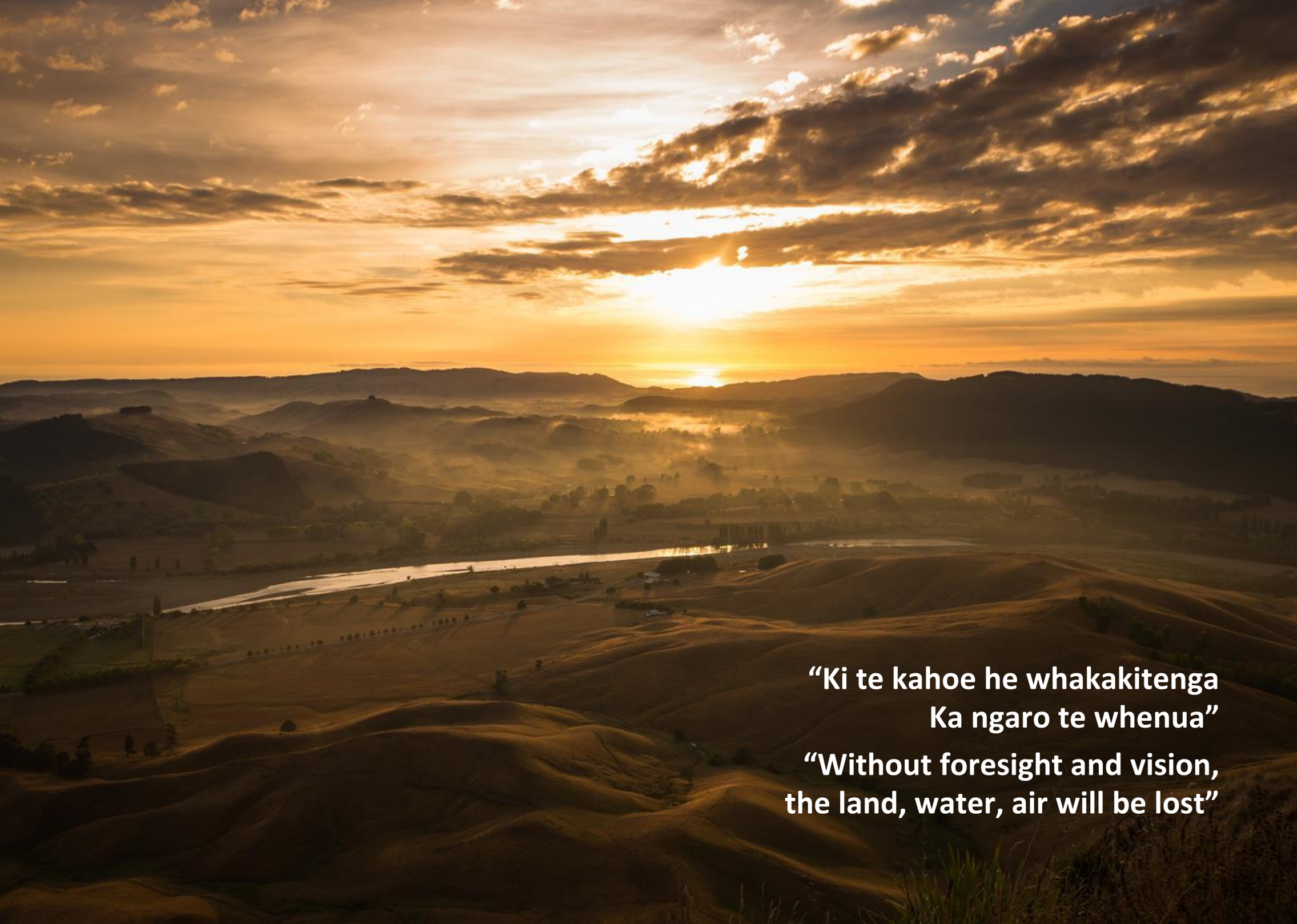
State of the environment monitoring and reporting provides Council and you, the community, with access to information on the state or condition of the environment we live in. This enables us to identify key environmental pressures and to react to those. It is important that we as a community are informed about how we are performing in the management of our natural and built environment. The Report is not so much a report card on Council's management of the environment, but a report card on us all; Hastings District Council, Hawkes Bay Regional Council, Organisations and Community Groups, and individuals within the District, who all have a part to play in being responsible for the environment.

This 2014 Report is an important update that not only identifies the current state our District's environment but also identifies changes that have occurred since the last Report. This edition also includes a new section that sets out opportunities to enhance the relationship between tangata whenua with mana whenua and Council

The Council has committed to a sustainable development approach as a central theme of its strategic planning framework. It is focused on meeting the needs of its citizens today, as well as those of future generations. Protecting and enhancing our environment and its productive capacity is key in achieving this, alongside addressing social, cultural and economic imperatives. This is something that will require the efforts of the whole community, not just Council.

We all have a part to play in safeguarding our environment now and for future generations. We see this report as a vital tool for those involved in that protection and enhancement work, and for the preparation of plans and strategies that will influence the state of our environment in the future.

We will continue to work for a prosperous, sustainable community that cares for and sustainably manages the environment in which we live.



**“Ki te kahoe he whakakitenga
Ka ngaro te whenua”**

**“Without foresight and vision,
the land, water, air will be lost”**

How to read this report

How to read this report

This State of the Environment Report is organised in two parts.

This first part provides an introduction to state of the environment reporting, the parameters for this Report, a snapshot of Hastings District and its people to provide context in understanding the interaction between people and the environment; and an introduction to commonly held environmental values and customary mana whenua values as they relate to the environment.

The second part of this report describes the state of the District's environment. This commences with a table providing an executive summary of the state of the District's environment under the headings of the following six sections of the Report:

- Sustainable Land Use;
- Air & Water Sustainability (representative summary based on monitoring data from Hawke's Bay Regional Council);
- Amenity, Character & Heritage Management;
- Sustainable Infrastructure;
- Hazard Management; and
- Sustainable Waste Management.

These sections reflect the key topics selected for this State of the Environment Report and align with the functions of the Hastings District Council. It is recognised that these sections are a starting point only, and it is envisaged that future State of the Environment Reports will evolve and incorporate additional topics relevant to the District's environment, where appropriate.

Each section commences with a summary table which provides a quick glance at the indicators for that topic and a summary of the indicators over the reporting period.

The section is then divided into sub-topics following a standard format, as follows:

- An introduction;
- A table summarising the relevant community outcomes and District Plan outcomes and how the state of the environment indicators also inform those outcomes;
- Presentation of monitoring information for each indicator;
- A summary statement based on the indicator results for the topic in question; and
- Identification of current and suggested responses for Council and for the community.

Introduction

Introduction

This is the second State of the Environment Report for Hastings District. It depicts the state of the District's environment as at 31 December 2014.

The process for developing this State of the Environment Report has involved:

- Building on the indicators that formed the basis of the first report in 2008;
- Developing new indicators to supplement the existing and;
- Subsequently determining what supporting data is available and being collected by Hastings District Council and other organisations with the intention of setting in place many of the systems needed to enable monitoring of trends for future reporting.

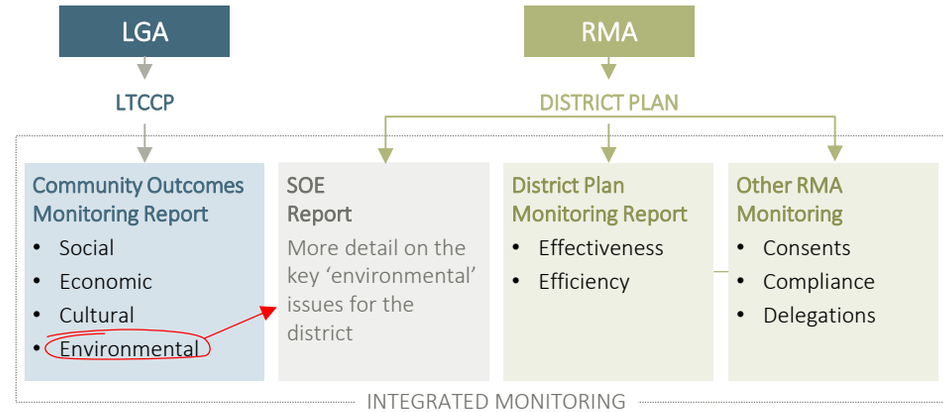
It has been prepared by Hastings District Council (Council) pursuant to Section 35 of the Resource Management Act 1991 (RMA). Section 35(2)(a) requires monitoring of the state of the environment to the extent appropriate to enable Council to carry out its statutory functions under the Act.

This document also seeks to integrate overlapping monitoring functions in the Local Government Act 2002 (LGA) to monitor and report on progress towards achieving the stated community outcomes for the District (including 'environmental' outcomes) as detailed in the Long Term Plan Council Community Plan (LTCCP) for Hastings District.

The following flow chart indicates where State of the Environment reporting fits within Council's wider monitoring framework.

The LTCCP referred to was replaced with the Long Term Plan which covers the period of 2015 to 2025. This report is based on the prior version being the Long term Council Community Plan 2006 – 2016.

Figure 1: Monitoring Framework



This Report depicts the state of the environment for Hastings District as at 31 December 2014. It focuses on those aspects of the environment that are directly related to the functions of the Hastings District Council as set out in Section 31 of the RMA.

Hastings District Council is responsible for controlling the effects of activities on land including the effects of land use activities on natural hazards, hazardous substances, contaminated land, indigenous biological diversity, noise, and the surface of rivers and lakes.

In contrast, Hawke's Bay Regional Council manages natural resources like air, water, soils and the coastal marine area, at a regional scale. It too has functions in respect of natural hazards, hazardous substances and identifying and monitoring contaminated land.

The 'environment' however, is not neatly split along these lines, and any consideration of the state of the Hastings District environment needs to incorporate air and water. In addition to those aspects directly related to the functions of the District Council, this document therefore summarises representative monitoring work undertaken by the Hawke's Bay Regional Council in respect of water and air quality, where applicable to the District.

For more detailed reporting on the state of these resources, refer to the Hawke's Bay Regional Council's own State of the Environment Reports including their most recent 2009-2013 report, available at:
http://www.hbrc.govt.nz/Services/Environmental-Sciences/SOE/Pages/default.aspx

The purpose of a State of the Environment Report is to compile, assess and report on information on the condition of the environment, the key pressures on it, and what responses are in place to address the issues.

At this point, it is helpful to introduce the **'Driving Force – Pressure – State – Impact – Response'** (DPSIR) model, which was developed from the Organisation for Economic Cooperation and Development's (OECD) 1993 'Pressure – State – Response' (PSR) model.

The PSR and DPSIR models are the most frequently used approach to State of the Environment reporting internationally, and have been adopted in New Zealand, Canada, United Kingdom, and Australia. The DPSIR model has been adopted for this State of the Environment Report for Hastings District.

DPSIR indicators aim to address four fundamental questions:

- What is happening to the environment?
- Why are changes happening to the environment?
- Are these changes to the environment significant?
- What is society's response to these changes to the environment?[1]

'Driving Force', 'pressure', 'state', 'impact' or 'response' indicators can be categorised according to the type of information they provide.

[1] Environment New Zealand 2007', 2007, Ministry for the Environment.

The following table provides a description of each type of indicator:

Table 1: Description of DPSIR Indicators

Indicator type	Description
Driving Force[2]	Describes social, demographic, and economic developments. Primary driving forces are population growth and changes in people's needs and activities. These change lifestyles and overall levels of production and consumption, which in turn exert pressures on the environment.
Pressure	Tracks people's use of natural resources and land, and production of waste and emissions (for example, greenhouse gases and particulates into the air). These pressures can change environmental conditions.
State	Describes the quantity and quality of the environment and natural resources (for example, water quality, air quality, or land cover).
Impact	Describes the effects that environmental changes have on environmental or human health (for example, the level of human illness related to exposure to air pollution).
Response[3]	Describes responses by government, organisations, or the community to prevent, compensate, ameliorate, or adapt to changes in the environment (for example, the introduction of regulations such as national environmental standards and legislative initiatives to protect native vegetation and biodiversity).

Source: Ministry for the Environment (adapted from European Environment Agency, 2003).

While it is important for indicators to have an element of continuity across reporting years in order to identify long terms trends, there are occasions where indicators need to be altered in order to reflect changes in policy direction and goals for the District Plan. An example of this is the District Plan review. The Proposed District Plan was released for consultation in November 2013, with hearings throughout 2014 and early 2015 and decisions released in September 2015. Therefore, by the time the next State of the Environment Report is produced, there will be a new District Plan in effect, and some indicators may need to be altered accordingly.

[2] 'Driving force' indicators for Hastings District are generally found in the following section of this Report – 'Snapshot of the Hastings District and Its People'.

[3] 'Response' indicators for Hastings District are generally summarised as bullet points in terms of proposed community and council responses, and found at the end of each topic in this Report.

Snapshot of Hastings District and its People

Our District

The District covers a land area of 521,732 hectares (5,217 km^2). The Pacific Ocean is to the east, and our five neighbouring territorial authorities share the remaining boundaries (see map below).

Figure 2: Hastings District and Neighbouring Territorial Authorities

Source: Hastings District Council

Hastings District comprises the major urban centre of Hastings, several smaller urban areas including Havelock North, Flaxmere, Clive and Whakatu, as well as a number of rural service settlements and coastal settlements.

The landscapes and river systems of our District hold significant cultural, spiritual, ecological, recreational, as well as economic values for us. The hapu whanui of Ngati Kahungunu have always valued and acknowledged the bounty of the land as a taonga – **'Heretaunga hauku nui'.** The fertile soils, aquifers, waterways and life-giving dew **(hauku nui)** combine, providing an environment rich for cultivation, providing manaaki for the mana whenua and the community as a whole.

Our western border is dominated by the presence of the Ruahine and Kaweka Ranges. The major river systems in our District are the TukiTuki, Ngaruroro, Tutaekuri and Esk Rivers and their tributaries. Our landscape is also dominated by the presence of the Heretaunga Plains and surrounding hills, Te Mata Peak, Kahuranaki, Mt Erin – Kohinurakau, along with the Lake Tutira basin and significant wetlands. These features are also embedded in the oral traditions of the mana whenua.

The Heretaunga Plains, formed as a result of uplift, erosion and fluvial processes, contains some of the most fertile and productive agricultural and horticultural land in the country. The aquifer system underneath the Heretaunga Plains is the main groundwater resource for the Heretaunga Plains, Hastings and Napier communities, providing 85% of our water requirements.

Hastings District has a mild temperate climate protected from the prevailing westerly winds by the mountain ranges. As a result, we experience a calm, dry, sunny climate characterised by long hot summers and mild winters. These environmental factors contribute to our District's strong association with horticulture, cropping and viticulture, and accompanying recreation and tourism. Hastings is New Zealand's largest producer of apples, pears and peaches, and second largest producer of grapes and wines.

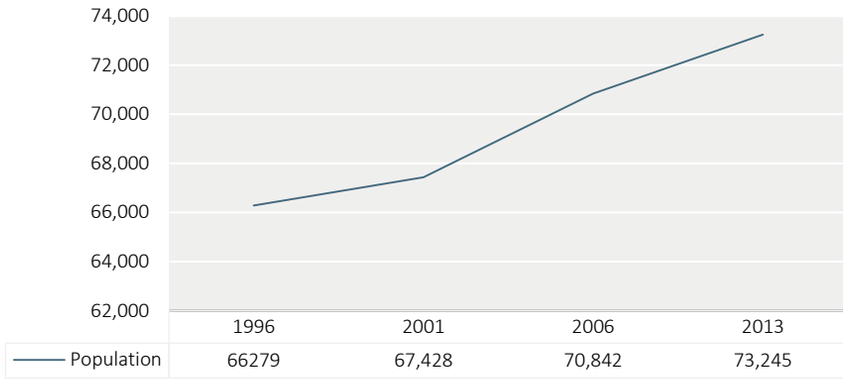
Hastings District is renowned for its fertile soils, plentiful clean water and beautiful scenery, so the quality of our environment and its protection for future generations is very important to us.

Our People

District Population

The Hastings District is home to 73,245 people (recorded at the last Census in 2013). Since the 2006 census, the population of our District has grown by around 3.4%.

Figure 3: Hastings District Population 1996-2013



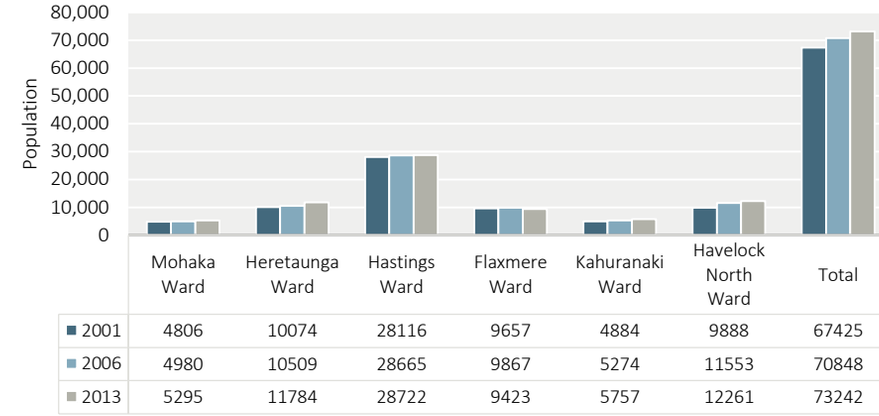
Source: Statistics New Zealand

This increase was greatest between Census 2001 and Census 2006, when the population increased by 3,414 people or 5.1%.

Hastings District's population ranks 11th in size out of the 67 Districts in New Zealand and represents 1.7% of New Zealand's population.

As can be expected, the majority of the District's population reside in the urban areas of Hastings City (39%), Havelock North (17%) and Flaxmere (13%). The remainder of the population is distributed between the small urban areas, such as Clive, Whakatu, and Haumoana, and rural areas of the District.

Figure 4: Distribution of Hastings District Population



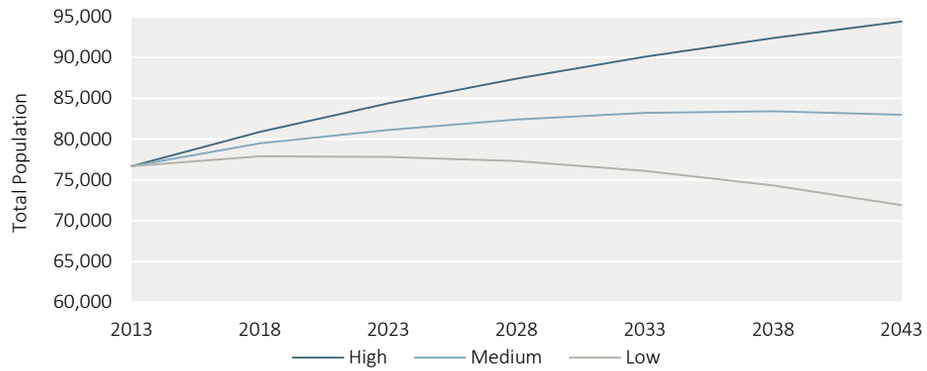
Source: Statistics New Zealand

The distribution of the population within our District has altered over the 12 years to 2013, with the population residing in Hastings City and Flaxmere remaining relatively stable (2.1% increase and 2.4% decrease, respectively), with more significant change in the population residing in Havelock North (increasing 23.9%) over 2001 figures.

The medium series for population projections[4] suggest that our District will grow to 83,200 people by the year 2033. This equates to an increase of 13% (10,000 people) over the 20 years from 2013 to 2033 However, under the high series projections, we could experience a 23% increase over that same period (an additional 16,000 people).

[4] Statistics New Zealand adopt a series of projections based on varying fertility, mortality and migration rates – low, medium and high series projections.

Figure 5: Hastings District Population Projections



Source: Statistics New Zealand

Table 2: Low, Medium, and High Population Projections

	2013	2018	2023	2028	2033	2038	2043
High	76700	80900	84399	87400	90100	92400	94400
Medium	76700	79500	81100	82400	83200	83400	83000
Low	76700	77900	77800	77300	76100	74300	71900

Source: Statistics New Zealand

Hastings District has been experiencing a slow but steady increase in population, particularly in Havelock North and parts of the rural area. This steady increase in population is projected to continue into the future.

Ethnic Composition

Based on the 2013 Census, a higher proportion of us identify as Maori (24.4%) compared with 14.9% nationally, and 75.2% of us identify ourselves as belonging to the European ethnic group (similar to the national figure of 74%).

A total of 16,821 Maori usually live in the Hastings District. This is an increase of 864 people (or 3.6%) since Census 2006.

Hastings District has a proportion of residents who identify themselves as Maori that is significantly higher than the national average. This is particularly evident in the urban area of Flaxmere where those identifying as Maori make up close to half of the population.

Ethnic population projections to 2021 suggest the proportion of people identifying themselves as 'Maori' in the District will continue to increase.

Our Economy

The economy of the Hastings District is highly dependent on viticultural and horticultural land uses and associated industries. These forms of activities rely on the soil resource of the Heretaunga Plains and tend to be concentrated on the fertile soils of the Heretaunga Plains that surround Hastings.

Given the importance of these land uses to the District's economy, it is necessary to manage and protect the soil resource so it is available for horticultural and viticultural activities that depend on it.

While land based primary production is the primary focus of the Plains production Zone it is recognised that other rural production activities that do not rely on the soil resource may also be appropriate in certain circumstances.

Hastings District's economy is highly dependent on land based primary production. Therefore, the protection of land suitable for these activities is of very high importance both now, and in the future.

Source: Hastings District Council

Environmental Values

Sustainability

Sustainability is a term used interchangeably with concepts such as environmentalism or being 'green'. One of the most commonly used and widely adopted definitions of sustainable development is *"meeting the needs of the present generation without compromising the ability of future generations to meet their own needs"*[5]. This is the overarching principle of 'sustainable management' – the promotion of which is the central guiding purpose of New Zealand's 'Resource Management Act 1991' (RMA).

Sustainability is about the relationship between people and planet both current and in the future; remembering that we are inextricably part of this planet, and that our societies (including economies) depend upon healthy biological and physical systems.

There is a growing realisation that we are currently living beyond our means, and that our way of life is placing an increasing burden on the planet. The environmental impacts of our consumption and production patterns can be severe and an inefficient use of resources.

Sustainability or sustainable development is about protecting natural resources and enhancing the environment (where appropriate), and understanding environmental limits.

As part of this, there is a movement towards creating sustainable communities that are:

- Active, inclusive and safe
- Environmentally sensitive – providing places for people to live that are considerate of the environment and the flora and fauna that live in it
- Well designed and built – featuring a quality built and natural environment
- Well connected – with good transport services and communication linking people to jobs, schools, health and other services
- Thriving – with a flourishing and diverse local economy
- Well served – with public, private, community and voluntary services that are appropriate to people's needs and accessible to all
- Fair for everyone – including those in other communities, now and in the future[6].

Why not try out the following website calculator to see what your personal ecological footprint is and get some ideas on how you can reduce it:

http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/

[5] *Our Common Future*: Report of the World Commission on Environment and Development (1987), Oxford: Oxford University Press (Brundtland Report).

[6] *'Sustainable Communities: People Places & Prosperity',* 2005, Office of the Deputy Prime Minister (ODPM), HM Government, London.

Mana Whenua Customary Environmental Values

Kaitiakitanga

Ancestry and occupation are the source of rights and responsibilities. In this region they are qualified by ahi kaa roa – under the larger iwi collective of hapu that affiliate to Ngati Kahungunu. The establishment of claimant hapu, and post settlement governance entities will also contribute their responsibilities as Ngati Pahauwera, Maungaharuru Tangitu, Mana Ahuriri Incorporated, Ngati Hineuru and He Toa Takitini. Yet it is acknowledged and recognised that these entities all comprise hapu whanui with particular rights and responsibilities within their several rohe.

Whakapapa (ancestry) is the source of rights from which mana (authority) is derived. These rights are exercised and maintained within a regime of kaitiakitanga through whakawhanaungatanga (vertical and horizontal relationships). Kaitiakitanga is governed according to tikanga [the regulatory system] through the operation of kawa [the protocols, practices and procedures]

- Authority, rangatiratanga, is sourced in whakapapa
- Mana is sourced in whakapapa
- The rights and responsibilities within the authority of mana are exercised and maintained through whakawhanaungatanga – the kinship relationships on which the entire system depends for its perpetuity.

Environmental Management and Maori Participation

The Council maintains an engaged relationship with whanau, hapu and iwi throughout the District where particular rights and responsibilities are invoked under the regime of kaitiakitanga as it meets the obligations of the Local Government Act (2002), and the Resource Management Act (1991). Hastings District Council also includes the HDC: Tangata Whenua Waste Water Management Committee; and the HDC: Joint Maori Committee. Further, there is a policy direction to encourage the development of hapu development plans, and marae development plans that provide opportunities to include aspirations for sustainable environmental management regimes that coincide with the objectives of kaitiakitanga.

Summary of the State of the Environment

Summary of the State of the Environment

Key Symbolising the State of the Resource

baseline information from which future trends will be measured

marked improvement in the state of the resource

the state of the resource remains steady or only exhibits small fluctuation

marked decline in the state of the resource

The 'Indicator Reference(s)' and 'Related Indicators' columns on the following page area reference to the detailed information for each indicator in the various report chapters.

State of the Environment Issue	Overall State 2004-2008	Overall State 2009-2014	Summary	Indicator Reference(s)	Related Indicators
SUSTAINABLE LAND USE					
Land Use	BASELINE	STEADY	The district's land cover is divided as follows: 93% grassland/vegetation cover, 5% crops/orchards/vineyard cover, 1% built up urban land cover. The Rural Zone makes up 93% of the District, the Plains Zone ~6%, and urban zones make up ~0.6%.	LU1and 2	SD3, VS5
Sustainable Urban Development	BASELINE	STEADY	Demand for new dwellings dropped sharply in 2008 and remained low when compared with the numbers observed in the early to mid-2000s. Infill subdivision accounted for 37% of all lots created in 2009-2014, compared with 40% during the previous reporting period.	SD1 – 3	LU2, VS2, VS3, VS5, CA1, CA2, NH1 – 3
Protection of Versatile Soils	STEADY	STEADY	Approximately 13% of the District is Class I, II and III soils. The number of building consents for new dwellings as a portion of the total dropped slightly for the Plains Zone and rose slightly for the Rural Zone. There was a marked increase in the portion of building consents granted for new dwellings in the Rural Residential Zone. Sudbdivision consents granted in the Rural/Plains zones dropped considerably. This is likely due to Plan Change 49 and changing market demand.	VS1 – 7	LU2, SD1 – 3
AIR & WATER SUSTAINABILITY					
Air Quality	GETTING WORSE	GETTING BETTER	Air quality is generally very good. Hawke's Bay Regional Council monitoring indicates that carbon monoxide and nitrogen dioxide levels are well within health guidelines. The number of days where PM_{10} in Hastings Airshed that exceeded the National Environmental Standards for Air Quality has decreased. Residents' level of concern regarding perceptions of air pollution is still high. In 2008, 47% of residents surveyed were concerned or very concerned about air pollution. In 2014 this had dropped to 40%. However, then number of people who reported being 'a little' concerned about air pollution rose from 19% (2008) to 30% (2014), with the number who were 'not concerned at all' dropping from 33% (2008) to 28% (2014).	AQ1 and 2	
Water Quality	STEADY	BASELINE	Hawke's Bay Regional Council monitoring indicates that groundwater quality in the Hastings District (particularly the Heretaunga Plains aquifer) is very high. Marine water quality is also consistently very good, although correspondingly poor in lagoon and estuarine areas. Baseline data indicates that public concern about water quality is high, with 69% of people surveyed stating they were either 'concerned' or 'very concerned' about water pollution in the District.	WQ1 and WQ2	CA3, CA4, WS5, WS6

State of the Environment Issue	Overall State 2004-2008	Overall State 2009-2014	Summary	Indicator Reference(s)	Related Indicators
AMENITY, CHARACTER & HERITAGE MANAGEMENT					
Residential Amenity	GETTING BETTER	STEADY	The top 3 non-residential activities in residential zones were educational facilities, home occupations and healthcare facilities. Complaints about non-residential activities are trending down. Background noise levels throughout the urban areas of the District are between 35-45dBA (L95). There are more noise complaints, and 32% of residents surveyed are concerned or very concerned about noise pollution. Residents rate the District as a safe place to live, and satisfaction with parks and reserves and accessibility to recreational facilities is high.	A1 – 10	AQ1, NC1, H1, H2, T5, T6, T7, WS6, WW4
Coastal Amenity	STEADY	STEADY	Subdivision in coastal settlements mainly occurred in Waimarama and Te Awanga. Marine water quality is generally good. However, comparison of the two reporting periods indicates that the number of times water quality did not meet the suitability for recreation guidelines was slightly higher in the current reporting period to 2012/13 than for the previous 5 year period. Waipatiki Lagoon, Waimarama and Puhokio Lagoon experienced fewer exceedances of guidelines, however still received a 'Poor', and 'Very Poor Suitability for Recreation Grades (SFRG). This was the same as the last state of the environment report. Two sites have experienced water quality more frequently (Te Awanga and Maraetotara Lagoon).	CA1 – 4	WQ1, NC1, NH1 – 3
Natural Heritage/ Landscape Character	BASELINE	STEADY	3.4% of Hastings District contains a significant landscape character area or outstanding natural feature. The number of land use and subdivision consents granted in these areas remained steady over the reporting period. 1.6% of total land in the District contains an identified area of significant indigenous vegetation or significant habitats of indigenous fauna.	NC1 – 3	SD1, VS2, VS3
Cultural & Historic Heritage	BASELINE	GETTING BETTER	There are 148 outstanding trees, 85 heritage items, 3 heritage areas, 57 waahi tapu sites and 1,204 archaeological sites identified in the District Plan. There were a low number of consents to modify or destroy heritage items or waahi tapu areas. There were 28 authority applications (to the Historic Places Trust) to modify or destroy an archaeological site. Around 86% residents are satisfied with the public art and cultural opportunities in the District.	H1 – 4	SD1, SD3, VS2, VS3, VS5, CA1

State of the Environment Issue	Overall State 2004-2008	Overall State 2009-2014	Summary	Indicator Reference(s)	Related Indicators
SUSTAINABLE INFRASTRUCTURE					
Transportation	GETTING WORSE	STEADY	There is an increasing number of motor vehicles per household in the District. 'Private Car' is the favoured means to travel to work. While total bus passenger numbers per annum are slowly increasing, the vast majority of residents surveyed reported that they did not use public transport at all in the previous 12 months. The number of people cycling to work is higher than the national average but declining in the District. However, anecdotally the number of recreational cyclists has increased. Future reporting on this issue may benefit from additional data collection.	T1 – 10	AQ1, A3, A5, A6, A10
Water Management	STEADY	STEADY	The District has a consent for 940, 000m3 of water in any 7-day average for public water supply. Our domestic water consumption has decreased from 440 litres per day in 2008 to about 380 litres per person per day. Commercial and industrial consumption is also relatively stable about 1,600,000 cubic litres per year.	WS1 – 6	A10
Waste Water Treatment	GETTING BETTER	STEADY	The District holds two consents for wastewater treatment and discharge – at East Clive and Waipatiki. Discharges from East Clive total an annual daily average of 53,000m^3 and are well within environmental standards. 75% of residents are satisfied with their sewerage system (note: 24% of survey respondents did not respond to this question. It is likely that a significant number of these people are not connected to Council sewerage system. Therefore, satisfaction of those connected to Council sewerage system is likely to be much higher than is reflected in the graph in the relevant chapter).	WW1 – 4	WQ1, A10, TW1, TW2
Trade Waste Disposal	GETTING BETTER	STEADY	There are 27 industries connected to the separated trade waste system. Between 2008/09 and 2013/14, there was only one warning notice for non-compliance issued each year.	TW1 and 2	WW1 – WW4, HS1, HS2, HW1, CS1
Energy Use	BASELINE	STEADY	Annual residential electricity consumption has been steady in Hawke's Bay Region between 2010 and 2014. There is currently no definitive way of monitoring the number of organisations that have taken up sustainable energy use projects. Therefore, there has been no change to how this indicator is monitored since the last report. As the information currently available does not provide for meaningful conclusions to be drawn, this indicator may need to be altered for future State of the Environment monitoring.	E1 and 2	

State of the Environment Issue	Overall State 2004-2008	Overall State 2009-2014	Summary	Indicator Reference(s)	Related Indicators
HAZARD MANAGEMENT					
Natural Hazards	STEADY	STEADY	The District experiences major storm events and flooding, coastal erosion and inundation, and rural wildfires. 1.6% of the District is subject to the Natural Hazards Resource Management Unit. This is likely to reduce in the next reporting period, as the Proposed District Plan has reduced controls over hazards where appropriate regulatory controls, such as the Building Act or Hawke's Bay Regional Council Coastal Environment Plan, so as to avoid duplication. Resource consents in identified hazard areas were steady between 2009-2014.	NH1 – 3	SD1, SD3, VS2, VS3, A6, CA1, CA2
Hazardous Substances	STEADY	GETTING BETTER	There were no specific resource consents between 2009 and 2014 required under the hazardous facility screening procedure. The average reported incidents occurring per year involving hazardous substances spills decreased over the 2009-2014 period when compared with the 2004-2008 period.	HS1 and 2	A6, TW1 – 3, SW1, SW3, HW1, CS1
SUSTAINABLE WASTE MANAGEMENT					
Solid Waste	GETTING BETTER	STEADY	Solid waste is disposed of to the Omarunui Landfill, serving both Napier and Hastings districts. The Landfill operation generally complies with its resource consent conditions. There have been no major breaches of consent as of 2014. There was been a decrease in solid waste sent to the Landfill from Napier and Hastings, since 2004/05 until 2007/08. However, the volume of waste sent to the Landfill has been steady over recent years. In 2014, the largest proportion of solid waste to the Landfill was organic matter 38% (compared with 40% in 2009), followed by plastic products 14% (compared with 12% in 2009) and paper 10% (same as in 2009). These all offer potential for further diversion of waste from the Landfill. Recycling in the District increased almost 40% in the 3 years to 2008, but has plateaued since then. 89% of residents are satisfied with recycling facilities in the District.	SW1 – 5	HW1
Hazardous Waste	BASELINE	STEADY	There is a mobile collection service once a year for residents to drop off household hazardous wastes (known as HazMobile). HazMobile volumes peaked in 2006 when 27 tonnes were collected across the Hawke's Bay Region. Since 2007, the volume of hazardous waste collected by HazMobile has fluctuated between 14-24 tonnes. Industries and businesses are required to have other arrangements to dispose of their hazardous waste – usually with their supplier, hence no comprehensive information available on the amounts being used or disposed from these sources.	HW1	A6, HS1, HS2, SW2, CS1

Sustainable Land Use

Sustainable Land Use

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Land Use				
LU1	Land cover classes			Minimal change. 93.4% grassland/shrubland/forest cover in 2012 (down slightly from 94.2% in 2005), 4.6% crops/orchards/vineyard cover (up slightly from 3.9% in 2005), 0.7% artificial surfaces cover (up slightly from 0.6% in 2005).
LU2	Land use zones			Minimal change. 93% Rural Zone, 6% Plains Zone, 0.6% urban zones.
Sustainable Urban Development				
SD1	Building consents for new dwellings			Demand for new dwellings dropped sharply in 2008 and remained low when compared with the numbers observed in the early to mid 2000s.
SD2	Infill subdivision in the Residential Zones			Infill subdivision accounted for 37% of all lots created in 2009-2014, compared with 45% during the previous reporting period.
SD3	Plan change requests for rezoning from rural to urban			There have been no significant rezoning requests for new Residential and Rural Residential zoned areas in the current reporting period, although there are a number of rezoning requests as part of the District Plan review that are still being considered.
Protection of Versatile Soils				
VS1	Versatile soils in the District			No change. 13% Class I, II and III soils.
VS2	New dwellings in the Rural/Plains Zones			The number of building consents for new dwellings as a portion of the total dropped slightly for the Plains Zone and rose slightly for the Rural Zone. There was a marked increase in the portion of building consents granted for new dwellings in the Rural Residential Zone.
VS3	Subdivision in the Rural/Plains Zones			Demand for subdivision in the Rural/Plains Zones has fallen in the current reporting period, compared to the level experienced during the previous reporting period.
VS4	'Farm Park' subdivision in the Rural Zone			Demand for Farm Park subdivisions has remained low throughout the District. The residential farm park concept is adopted for almost all subdivisions involving more than 3 lots.

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
VS5	Rezoning of Rural/Plains Zone land			Over the first State of the Environment reporting period to 2008, approximately 183 hectares (0.62%) of the Plains Zone and 466 hectares (0.09%) of the Rural Zone was re-zoned for urban development Since then, however, there have been only 3 rezoning requests affecting Plains Zone and no rezoning requests affecting Rural Zone land. In total, approximately 96 hectares (0.33%) of Plains Zone land was rezoned for urban development
VS6	Types of Land Use Consents Applied for in the Plains Zone			Land use consent for activities not associated with land based primary production activities has been steady, averaging 55 consents per year. There is a small increasing trend in the number of industrial and commercial land use consent applications on the Plains Zone over the reporting period.

Amongst other things, the purpose of the RMA is about enabling people and communities to provide for their social, economic and cultural wellbeing now, whilst sustaining the potential of natural resources to meet the reasonably foreseeable needs of future generations and safeguarding the life-supporting capacity of soil.

Section 31 of the RMA gives the District Council the function of managing and controlling the effects of the use, development, or protection of land.

Land Use

How we use land affects the type of vegetation cover present and the soil beneath. A change in land use can result in a loss of, or change in, vegetation and soil quality.

Loss of vegetation cause erosion and have a negative impact on water quality in streams, rivers and (eventually) groundwater, all of which affects the biodiversity and sustainability of natural resources.

The Hastings District Plan manages the effects of land use through a mechanism called zoning. Zoning reflects the existing and potential pattern of development within the District. Different areas have their own distinct character within the District. Zoning is used as a framework for standards and other methods which protect and enhance the desirable aspects of the character in each zone.

Indicators

The following table shows the indicators that are used to monitor the state of land use in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR LAND USE

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND HOW IT INFORMS THESE OUTCOMES	RELEVANT DISTRICT PLAN OUTCOMES
			• An environment that is appreciated, protected and sustained for future generations. • The Hawke's Bay community is well informed and educated about the environment.	Operative Hastings District Plan, Section 1.5.2 (The Structure of the District Plan): The District Plan recognises that the effects of activity differ by location, by intensity, and as a result of particular environmental characteristics. The District Plan introduced a range of Zones, Resource Management Units and District Wide Activities, to enable the effects of activities to be effectively and discretely managed. Proposed Hastings District Plan (2013), Section 2.3.3.4 (How the District Plan will Deliver the Vision) A place based approach has been adopted in drafting the District Plan, identifying those areas of the District that have special characteristics that set them apart from other areas of the District. These areas are identified as Strategic Management Areas (SMAs). There will be a series of Zones with the SMAs that recognise the like areas of land uses.
LU1	Land Cover Classes	State	An understanding of the District's land cover and land use patterns will assist in planning for future development in an integrated way, in achieving sustainable use of land and water resources, and moving to a more compact urban form.	
LU2	Land Use Zones	State and Response		

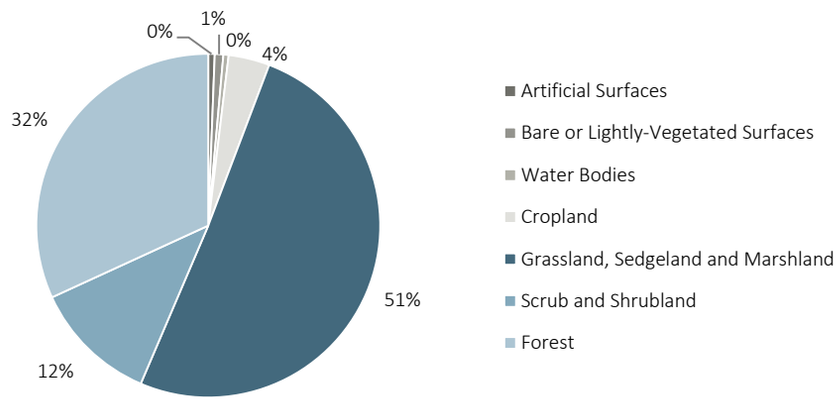
Monitoring information

Indicator LU1: Land Cover Classes

Land cover data provides an indication of the range of land uses in the District, and their relative land area. This provides a good understanding of how the District's land resource is being utilised.

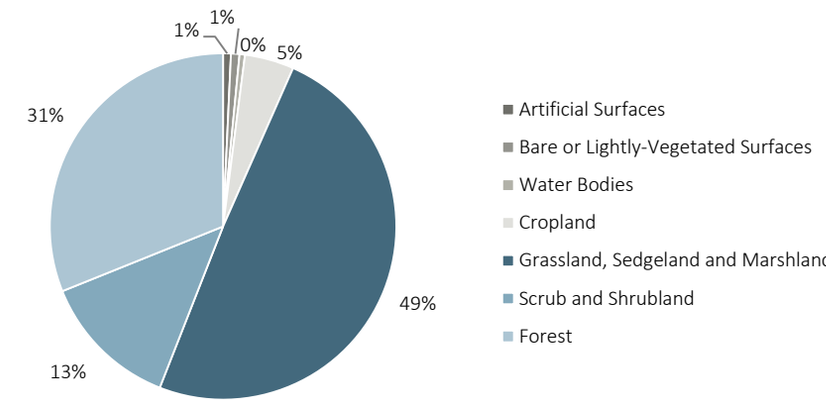
The following graphs show a comparison in land cover between 2005 and 2012. The land cover groupings have been standardised in line with Landcare Research Informatics.

Figure 6: Land Cover of Hastings District (2005)



Source: Land Cover Data Base 2 (LCDB2), Landcare Research Informatics

Figure 7: Land Cover of Hastings District (2012)



Source: Land Cover Data Base 3 (LCDB3), Landcare Research Informatics

The above graphs and following table show that since 2005, there has been a slight change in land cover in the Hastings District with a loss of shrubland and increase in cropping, orcharding, and vineyards.

Table 3: Summary of Land Cover Change in Hastings District between 2005 and 2012

Land Cover Group	% of Total (2005)	% of Total (2012)	% Change
Artificial Surfaces (e.g. Built-up Area, Urban Parkland/Open Space, Transport Infrastructure)	0.60	0.73	+0.13
Bare or Lightly-vegetated Surfaces (e.g. Sand, Gravel, Rock, Landslide)	0.80	0.79	-0.01
Waterbodies	0.49	0.51	+0.02
Cropland (e.g. cropland, vineyards, orchards)	3.87	4.60	+0.73
Grassland, Sedgeland and Marshland	50.65	49.33	-1.32
Shrub and Shrubland (e.g. Gorse/Broom, Manuka/Kanuka, Shrubland)	11.73	12.95	+1.22
Forest (e.g. major shelterbelts, pine forest, exotic forest, indigenous forest)	31.85	31.09	-0.76

Source: Land Cover Data Bases 2 & 3 (LCDB2 & LCDB3), Landcare Research Informatics

The combined amount of grassland, shrubland and forest cover has dropped slightly from around 94.2% in 2005, to around 93.4% of the District in 2012. The above indicates a slight increase in shrubland (1.22% increase, which equates to around 6,495ha) and cropland cover (0.73% increase, which equates to around 3,834ha), with a corresponding slight decrease in grassland (down 1.32% which equates to around 6,528ha) and forest cover (down 0.76% which equates to around 3,706ha). This does not represent significant land cover change, but suggests some possible minor land conversion towards cropland, vineyards and orchards, and some reversion to shrub, may be occurring.

Artificial Surfaces (e.g. built up area and urban parkland/open space areas) in 2012 accounted for approximately 0.73% of the land cover. This is a slight increase in percentage cover from 2005 (up from 0.6%). The amount of bare or lightly vegetated surfaces and waterbodies has remained unchanged.

Indicator LU2: Land Use Zones

The Hasting District has been divided into zones. A zone is an area of land set aside for a specific range of uses. Each zone is managed according to the different environmental outcomes that are being sought for the zone. Activities within the zones are managed according to the anticipated environmental effects, and the ability of the District Plan to avoid, remedy or mitigate these effects.

The zones in the Hastings District Plan can be generally grouped as follows:

- **Rural Zone:** traditionally oriented towards land-based primary production but becoming increasingly diversified; provision for limited commercial and industrial activities ancillary to its primary production focus; and limited opportunity for residential lifestyle lot subdivision
- **Plains Zone:** focuses on sustaining the life-supporting capacity of the highly versatile Heretaunga Plains soil resource; residential lifestyle subdivision is discouraged and restricted to only that which provides for the balance to be amalgamated into an adjoining title
- **Rural-Residential Zone:** accommodates development of peri-urban lifestyle blocks, and is generally located on land with lower fertility soils. This also includes the Special Character Zones (Te Mata and TukiTuki)
- **Residential Zones:** covers the main urban residential areas and settlements, and areas identified for future residential expansion[7]
- **Commercial Zones:** five commercial zones provide for the different commercial requirements of businesses within the District
- **Industrial Zones:** Six industrial zones provide for the various levels and types of industrial activity in the District. A seventh industrial zone has been introduced since the first State of the Environment Report. Under the Proposed District Plan there are eight industrial zones.

The following table shows the area of land within each of the Operative District Plan zones as at the end of 2008, and enables limited comparison with 2014 figures, showing where there may have been gains and losses since the first State of the Environment Report.

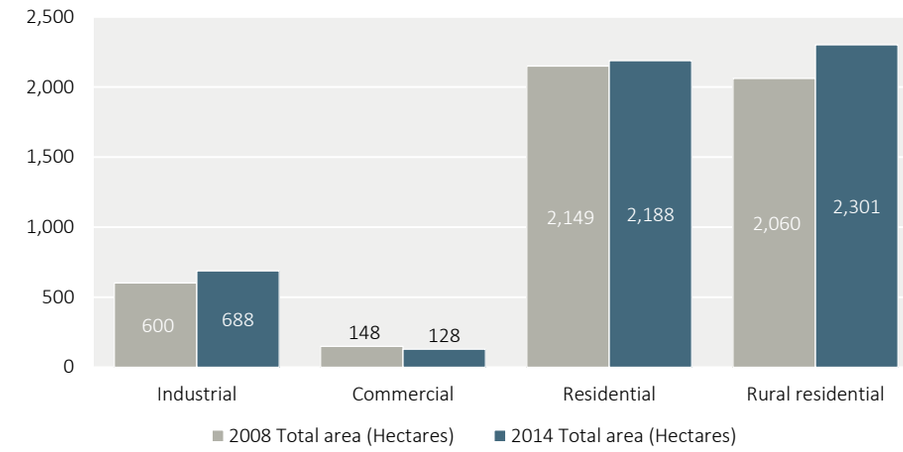
[7] The General Residential Zone incorporates the main centres of Hastings City, Flaxmere and Havelock North, but also Clive and Whakatu. The Plains Residential Zone covers the settlements around Paki Paki, Bridge Pa and Omahu, and the Coastal Residential Zone includes the coastal settlements of Haumoana, Te Awanga, Waipatiki, Whirinaki, Waimarama and Tangoio.

Table 4: Area of Zoned Land Use in Hastings District (Operative District Plan)

Area of Zoned Land Use in Hastings District			
ZONES		AREA (HECTARES) 2008 – OPERATIVE DISTRICT PLAN	AREA (HECTARES) AS 2014 – OPERATIVE DISTRICT PLAN
Rural	Rural	**473,167**	**473,802**
Plains	Plains	**29,580**	**29,550**
Rural Residential	Rural Residential	1,265	1,505
	Te Mata Special Character	502	503
	TukiTuki Special Character	292	292
	Total Rural Residential	**2,059**	**2,300**
Residential	General Residential	2,002	1,995
	Deferred General Residential	5	34
	Plains Residential	26	25
	Coastal Residential	117	132
	Total Residential	**2,150**	**2,186**
Commercial	Central Commercial	49	44
	Commercial Service	29	23
	Large Format Retail	32	16
	Suburban Commercial	31	12
	Central Residential Commercial	6	4
	Havelock North Village Centre	-	18
	Flaxmere Village Centre	-	10
	Total Commercial	**148**	**128**
Industrial	Industrial 1	35	25
	Industrial 2	410	410
	Deferred Industrial 2	8	71
	Industrial 3	4	4
	Industrial 4	88	88
	Industrial 5	1	1
	Industrial 6	54	72
	Industrial 7	-	8
	Deferred Industrial 7 – Tomoana	-	8
	Total Industrial	**600**	**688**
TOTAL (excluding rivers/lakes, roads and restricted building areas)		**507,703**	**508,654**

Source: Hastings District Council

Figure 8: Change in Land Use Zones – 2008 to 2014



Source: Hastings District Council

The Rural Zone and the Plains Zone remain the largest zones in the Hastings District in 2014, but have not altered significantly in area from the first State of the Environment Report.

The industrial, commercial, residential and rural residential zones indicate change since the first State of the Environment Report. However as the change is small, with the exception of Rural Residential, much of this may be a reflection of improved accuracy and methods of determining areas (note the different 'Totals' at the bottom of table 3), and therefore caution is needed in interpreting change.

An increase in the industrial zoned area between 2008 and 2014 likely reflects the introduction of new and deferred industrial zoned areas at Irongate and Elwood Road as a result of approved Plan Changes 50 and 56. Plan changes for rezoning are addressed in more detail in the following section of this report (refer Indicator SD3).

Since publication of the first State of the Environment Report, Hastings District Council has carried out its District Plan Review, and notified a Proposed District Plan in November 2013. Decisions on submissions to the Proposed Plan were notified in September 2015. The following graph compares the land use zone areas in the Operative Plan, with those contained in the Proposed Plan.

The District Plan review took a more place-based approach to zoning, and introduced a significant number of new zones including a Regional Hospital Zone (currently zoned General Residential in the Operative Plan), Open Space Zone covering parks and reserves (parks and reserves had a variety of different zonings in the Operative District Plan), a Nature Preservation Zone (covering Cape Kidnappers and Ocean Beach) currently zoned Rural in the Operative Plan, and introduced numerous place-specific residential zones. The data has grouped the land use zones similarly to allow some comparison to be made. However, it should be noted that there has been changes to the way zones are mapped. For example, roads and lakes/rivers were previously excluded from zone analysis as they were not zoned in the Operative District Plan. In the Proposed District Plan these features have been made part of District Plan zones and cannot be excluded from the total area of this zone. This has resulted in some zones showing an apparent increase, when in fact there has been little change.

Table 5: Operative and Proposed District Plan Zones

Zones	Area in hectares (Operative District Plan)	Area in hectares (Proposed District Plan)
Rural	473,802	481,268
Plains	29,550	31,326
Rural Residential Zones	2,300	2,340
Residential Zones	2,186	2,416
Commercial Zones	128	162
Industrial Zones	688	719
Other	-	4,120

Source: Hastings District Council

The Proposed District Plan zones were grouped into the following categories for the purposes of the above table.

Rural Zone

- Rural.

Plains Zones

- Plains.

Rural Residential Zones

- Rural Residential
- Havelock North Rural Residential
- Te Mata Special Character
- TukiTuki Special Character
- Te Mata Restricted Building Area.

Residential Zones

- Clive-Whakatu Residential
- Coastal Settlement
- Flaxmere Community Residential
- Flaxmere General Residential
- Hastings Character Residential
- Hastings City Living
- Hastings General Residential
- Haumoana – Te Awanga Residential
- Haumoana Te Awanga Deferred Residential
- Havelock North Character Residential
- Havelock North General Residential
- Havelock North Rural Residential
- Plains Residential
- Waimarama Coastal Settlement.

Commercial Zones

- Central Commercial
- Clive Suburban Commercial
- Commercial Service
- Flaxmere Commercial
- Flaxmere Commercial Service
- Haumoana – Te Awanga Suburban Commercial
- Havelock North Village Centre Business
- Havelock North Village Centre Mixed
- Havelock North Village Centre Retail
- Large Format Retail
- Residential Commercial
- Suburban Commercial.

Industrial Zones

- Deferred General Industrial
- Deferred Tomoana Food Industry
- General Industrial
- Havelock North Village Centre Industrial
- Light Industrial
- Te Mata Special Character
- Tomoana Food Industry
- Whirinaki Industrial.

Other Zones

- Regional Hospital
- Hawke's Bay Regional Sports Park
- Open Space
- Cape Kidnappers – Ocean Beach Nature Preservation.

Hastings District comprises approximately 98% vegetated land cover, and approximately 98.9% of the District is zoned Rural or Plains Zone. There have been some minor increases in industrial and residential type zones to provide for current and future demand, although these are relatively small in relation to the total area of rural and plains zone areas

Land cover and zoning allocation continues to reflect a rural provincial area in New Zealand.

Comparisons suggest there has not been any significant change in land cover or land use patterns within the District since the first State of the Environment Report.

Responses

For Council

- Continue to monitor changes in land cover and land use patterns (zoning) over time, to determine/confirm any areas of the District experiencing significant change or pressure.
- As changes in Land Use Zone area are small, accuracy is important. It may be worth focusing on gathering more accurate data in order to compare the percentage change of particular zones, rather than just the percentage of the District each zone represents.

Photo: Land Use on the Heretaunga Plains
Source: Heretaunga Plains Urban Development Strategy

Sustainable Urban Development

Areas close to the urban centres and the hills surrounding the Heretaunga Plains face considerable pressure to accommodate increased urban activities (commercial and industrial activities) and residential housing.

The price, infrastructure potential and proximity of the Plains to the urban centres of Hastings City, Havelock North and Flaxmere generate considerable demand to utilise the land for a range of uses. Once land has been converted to urban, it is unlikely that this process will be reversed.

Of course, sustainable urban development is not about no development or urban growth – the issue is about striking an appropriate balance, efficient use of land resources at a rate that balances demand and supply, and investigating alternatives to Greenfield, commercial and industrial expansion. Indicators in this section illustrate whether development is sustainable.

Indicators

The table below shows the indicators that are used to monitor urban development in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Hastings City – Heretaunga Street heading towards Havelock North
Source: Hastings District Council

INDICATORS FOR SUSTAINABLE URBAN DEVELOPMENT

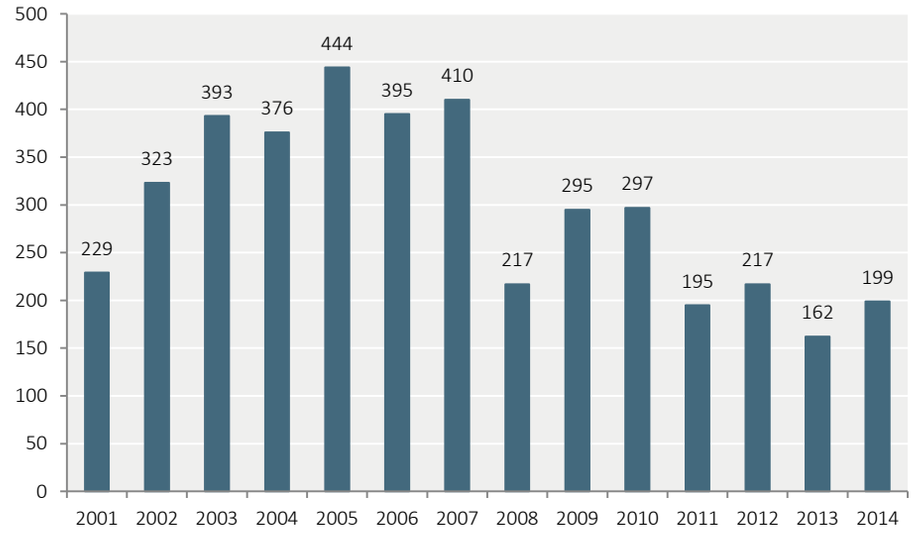
INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND HOW IT INFORMS THESE OUTCOMES	RELEVANT DISTRICT PLAN OUTCOMES
			• An environment that is appreciated protected and sustained for future generations. • Safe and secure communities. • A lifetime of good health and wellbeing. • Development in Hawke's Bay is sensitive to the need to protect and promote ○ Environmental wellbeing.	Operative Hastings District Plan Section 2.4.6 (Urban Development & Strategic Urban Directions): • Continued infill development at differing densities, while maintaining acceptable levels of residential amenity. • The establishment of a strategic long term Urban Policy that provides for an urban future of Hastings and Havelock North that avoids, remedies or mitigates adverse environmental effects and minimises the loss of valuable finite soil resources on the Heretaunga Plains. Section 2.6.6 (Low Density Residential Strategy): • Mitigation or avoidance of any significant adverse effects of low density residential development on other adjoining activities and on each other. • A more even balance between supply and demand for low density residential options without significant adverse environmental effects. • Provision of a comprehensive, integrated and flexible mix of low density residential development options to meet actual demand in a sustainable manner and over a long term. • Section 8.6 (Residential Zones) • Consolidation and infill development compatible in scale and character with existing development. Proposed Hastings District Plan (2013) Section 2.3.2.2 (The Role of the District Plan in Delivering the Vision): …the resources of the District that support land based primary production need to be carefully managed to ensure that they remain available for future generations…the versatile soils of the Heretaunga Plains should be protected from unnecessary development and that future urban growth should be provided for within the existing boundaries of the urban environment. This will require more intensive use of the existing residential areas. Section 2.4.2 Anticipated Outcomes (Urban Strategy): • UD2 Increased intensification of the existing urban environments, while maintaining acceptable levels of residential amenity. • UD4 Urban development that avoids, remedies or mitigates adverse environmental effects and avoids the loss of valuable finite soil resources on the Heretaunga Plains in line with the Heretaunga Plains Urban Development Strategy. Section 2.8.3 Anticipated Outcomes (Rural Resource Strategy): • RRS1 The continued availability, development and utilisation of the life supporting capacity of the Hastings District's soil resources for a range of activities
SD1	Building Consents for New Dwellings	Pressure	The number of building consents for new dwellings provides a good indication of demand for residential development and can highlight where pressure for development is occurring. Knowing where development pressure is occurring enables better strategic planning towards achieving infill development and a more compact urban form.	
SD2	Infill Subdivision in the Residential Zones	Pressure	Infill subdivision provides for residential demand without encroaching on currently undeveloped land. The higher the rate of infill development the less the impact of development on the District's land resource, as well as enabling efficient provision of services and infrastructure and more compact urban form.	
SD3	Plan Change Requests for Rezoning from Rural to Urban	Pressure	Rezoning of rural land for urban development can directly impact on the potential of the District's land and soil resources to provide for future generations. Together with understanding population dynamics and projections for the District, an understanding of demand and pressure for urban rezoning and where this is occurring, can assist with long term planning for sustainable urban development.	

Monitoring Information

Indicator SD1: Building Consents for New Dwellings

Building consents for new dwellings are a measure of the level of demand for residential urban development in the District. The following graph show the number of building consents for new dwellings for each year between 2001 and 2014.

Figure 9: Number of Building Consent for New Dwellings (2001-2014)



Source: Hastings District Council

Over the six years between 2009 and 2014, there were 1,365 building consents granted for new dwellings. This is a significant drop on the previous six years where 2,221 building consents for new dwellings were granted.

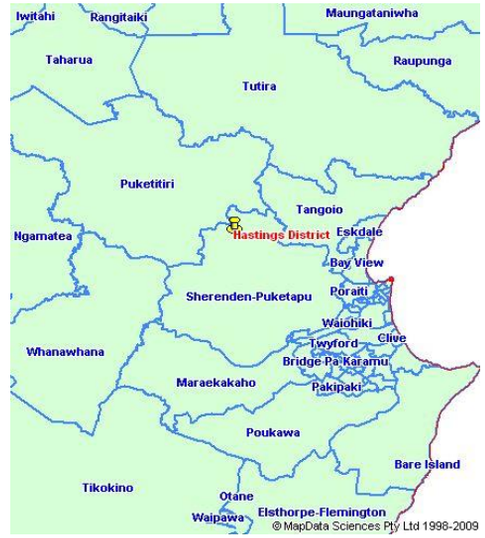
These statistics reflect population growth and a buoyant economy in the early 2000s, following by the effects of the global financial crisis which likely accounts for the sharp drop in building activity.

Approximately 15% of all new dwellings between 2009 and 2014 were in the Te Mata Census Area Unit (157 dwellings) with another 6% in the Havelock Hills Census Area Unit (61 dwellings). This coincides with the large-scale Greenfield development of the Arataki area in Havelock North and new development in the lifestyle areas in the Havelock Hills – further evidenced by the marked increase in population for that area between 2009 and 2014.

Figure 10: Map of Urban Census Area Units in Hastings District

Another area experiencing significant growth was in the Frimley Census Area Unit (CAU), which experienced an 11% increase in new dwellings (or 115 new dwellings).

Figure 11: Map of Rural Census Area Units in Hastings District



Other census area units experiencing significant growth in new dwellings between 2001 and 2008 were:

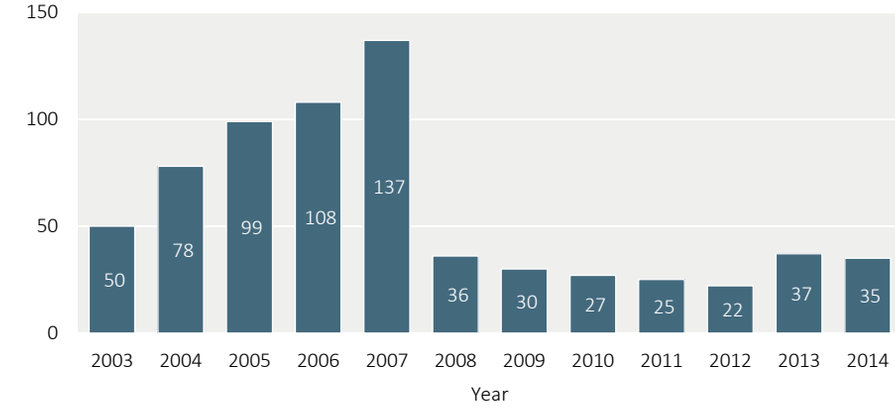
- Clive CAU (5.4% or 150 new dwellings)
- Sherenden-Puketapu CAU (159 new dwellings)
- Te Mata Hills CAU (151 new dwellings).

Indicator SD2: Infill Subdivision in the Residential Zones

Infill development often represents an efficient form of urban development. There has been a lower rate of infill subdivision in the urban residential areas of the District (General Residential Zone) over the current reporting period. The lower level of infill subdivision likely reflects a less buoyant property market since 2007, among other factors.

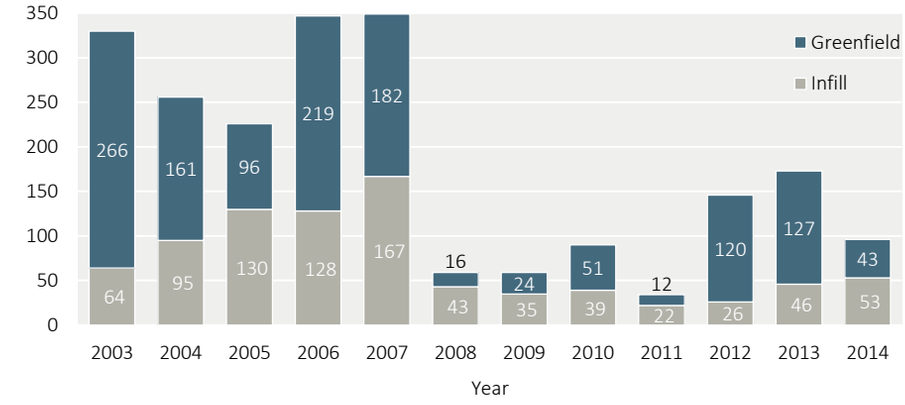
At the end of the first State of the Environment Report period, subdivision (greenfield and infill) in the General Residential Zone had started to decline markedly as economic conditions deteriorated. Low levels of subdivision have continued through the current reporting period to 2014, although it increased slightly in 2013 and 2014, it was nowhere near the numbers experienced in the mid 2000's.

Figure 12: Number of Infill Subdivisions Granted in the General Residential Zone (2003-2014)



Source: Hastings District Council

Figure 13: Infill and Greenfield Lots Created in Residential Zones



Source: Hastings District Council

As reported in the first State of the Environment Report, infill/consolidation accounted for 40% of all new lots created in the General Residential Zone between 2003 and 2008. For the subsequent period to 2014, this proportion has declined slightly to 37% of all new lots.

The Heretaunga Plains Urban Development Strategy (HPUDS[8]) directs urban growth in Napier and Hastings and on the Heretaunga Plains from 2015 onwards, and targets consolidation/infill at 60% of all new residential development by 2045 (see HUDS Growth Strategy Parameters diagram in Figure 14).

Indicator SD3: Plan Change Requests for Rezoning from Rural to Residential/Rural Residential

Plan change requests to rezone land to enable urban and low density residential development reflect the District's growing population and subsequent pressure for urban growth. Since the Hastings District Plan was made operative in June 2003, there have been 17 plan change requests to rezone Plains or Rural zoned land for urban and low density residential development purposes. However, these almost all occurred in the period covered by the first State of the Environment Report. Only two rezoning requests were received involving rural or plains zoned land in this reporting period from 2009 to 2014 – one of these was subsequently withdrawn, and the other related to a small approved rezoning of 1.39ha in Ada Street, Hastings, from Plains to General Residential Zone (Plan Change 52).

During this most recent State of the Environment reporting period, Council also undertook a review of the Hastings District Plan, resulting in the notification of a Proposed Hastings District Plan in 2013 which will ultimately replace the current Operative District Plan for Hastings. This process included a review of the policy framework, methods and rules in the District Plan that guide development.

Through this process, a number of submissions sought rezoning of land within the District, including rezoning of rural and plains-zoned land to facilitate additional areas of urban and low density residential development. Decisions on these submissions were released in September 2015, followed by a period for appeals and resolution of any appeals. Any rezoning approved as a result of that process will be reported in the next State of the Environment Report.

The rate of residential growth in Hastings District has fallen since 2008, following the height of development in the mid 2000's. At the same time, the demand for rezoning of rural land to accommodate Greenfield development has also dropped to almost nil in this current reporting period. Relatively static population growth and the impact of the global financial crises are reasons for low demand.

The proportion of new residential dwelling growth within existing residential areas through infill/consolidation has remained steady, at around 37% (infill/consolidation accounted for 40% of all new lots in the previous SOE reporting period).

Responses

For the Community:

- Take up opportunities to participate in the review of urban development strategies and future rezoning proposals in the District.

For Council:

- Promote best practice land development examples and good practice guidelines
- Contribute to reviews of the Heretaunga Plains Urban Development Strategy (HPUDS) for a co-ordinated approach to urban development across the Heretaunga Plains.

Photo: Arataki Urban Development Area
Source: Google Maps

[8] Heretaunga Plains Urban Development Strategy, 2010, Hastings District Council, Napier City Council & Hawke's Bay Regional Council.

Protection of Versatile Soil

Class I, II and III soils are generally considered the most fertile and versatile, and contain the greatest productive potential for farming and horticulture.

Hastings District has a finite resource of good quality rural land. The District's economy heavily relies on the Heretaunga Plains soils for horticulture and viticulture, and rural pasture land for sheep and cattle. The loss of high quality rural land to residential development could in the future compromise the ability of the District to support the extensive farming, horticultural and viticultural industries on which much of the community relies.

The rural land resource, and particularly the Heretaunga Plains soil resource, is important to the District for economic, cultural and social reasons. The Heretaunga Plains is a resource rich area of New Zealand, blessed with high value soils, good water supply and a temperate climate. With such resources the Plains have been the focus for settlement, with the main industrial base being in support of the agriculture and horticulture sectors.

The value of the soil and water resource to the economy and the wellbeing of the community has changed little over time. Ongoing growth in the residential and industrial sectors, along with changing horticultural practices has led to increasing competition for the water and soil resources.

Areas of rural land are often purchased and subdivided into smaller lots for residential and lifestyle purposes, particularly close to townships, although this is offset by the amalgamation of larger lots.

Diversification and intensification of activities in the rural area also means pressure to divide rural land into smaller and smaller lots, likely in an attempt to offset capital investments. Land fragmentation can result in a shortage of properties of suitable size for viable farming and horticultural units in the future.

Since the first State of the Environment Report was published, Hastings District Council, Napier City Council and Hawke's Bay Regional Council have embarked on a collaborative approach to plan for urban growth in the years ahead through the development and adoption of the Heretaunga Plains Urban Development Strategy (HPUDS). HPUDS was adopted in 2010 and will guide urban growth from 2015 for the next 30 years and beyond.

One of the key drivers for HPUDS was community recognition that both the soils and water resource are finite and under increasing pressure and could be better managed. Also of relevance is the Regional Policy Statement which became operative in 2014. This was the first statutory document that gave effect to HPUDS.

Through the recent District Plan Review leading to development of the Proposed Hastings District Plan, Hastings District has sought to implement relevant aspects of HPUDS through inclusion of policies and rules in the District Plan to ensure future growth is comprehensively addressed and sustainable.

Indicators

The table below shows the indicators that are used to monitor the state of the versatile soils in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Versatile Soils of the Heretaunga Plains
Source: Hawke's Bay Regional Council

INDICATORS FOR PROTECTION OF VERSATILE SOILS

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND HOW IT INFORMS THESE OUTCOMES	RELEVANT DISTRICT PLAN OUTCOMES
			• An environment that is appreciated, protected and sustained for future generations. • Development in Hawke's Bay is sensitive to the need to protect and promote environmental wellbeing.	Operative Hastings District Plan Section 2.4.6 (Urban Development & Strategic Urban Directions): • The establishment of a strategic long term Urban Policy that provides for an urban future of Hastings and Havelock North that avoids, remedies or mitigates adverse environmental effects and minimises the loss of valuable finite soil resources on the Heretaunga Plains. Section 2.6.6 (Low Density Residential Strategy): • The sustainable management of the Hastings District's land resource. • Protection of the potential of the Hastings District's land and soil resources for a range of sustainable activities. • Existing non-complying sites in Plains and Rural Zones will be better utilised. • A more even balance between supply and demand for low density residential options without significant adverse environmental effects. Section 2.8.6 (Rural Resource Strategy): • The continued availability, development and utilisation of the life supporting capacity of the Hastings District's soil resources for a range of activities. • The improved understanding of sustainable land practices, which promote the long term life supporting characteristic of the soil resource. Section 6.6 (Plains Zone) • The sustainable management of the Heretaunga Plains soil resource. Proposed Hastings District Plan (2013) Section 2.3.2.2 (The Role of the District Plan in Delivering the Vision): ...the resources of the District that support land based primary production need to be carefully managed to ensure that they remain available for future generations...the versatile soils of the Heretaunga Plains should be protected from unnecessary development and that future urban growth should be provided for within the existing boundaries of the urban environment. This will require more intensive use of the existing residential areas. Section 2.4.2 Anticipated Outcomes (Urban Strategy): • UD2 Increased intensification of the existing urban environments, while maintaining acceptable levels of residential amenity. • UD4 Urban development that avoids, remedies or mitigates adverse environmental effects and avoids the loss of valuable finite soil resources on the Heretaunga Plains in line with the Heretaunga Plains Urban Development Strategy. Section 2.8.3 Anticipated Outcomes (Rural Resource Strategy): • RRS1 The continued availability, development and utilisation of the life supporting capacity of the Hastings District's soil resources for a range of activities.
VS1	Versatile Soils in the District	State	The amount of versatile soils in the District indicates the state of the soil resource, and assists in understanding the rarity of the resource and the effect of loss of valuable finite soil resources both for present and future generations.	
VS2	New Dwellings in the Rural/Plains Zones	Pressure	The number of new dwellings in the rural area gives a good indication of the pressure for residential development in the rural area.	
VS3	Subdivision in the Rural/Plains Zones	Pressure	The number of subdivisions to create additional sites, including lifestyle lots, in the rural area gives a good indication of the pressure the rural soil resource is under, and an understanding of this enables informed response towards protecting this resource.	
VS4	'Farm Park' Subdivision in the Rural Zone	Pressure	Farm parks are one method of providing for low density residential demand with less impact on the life supporting capacity of the soils. The number of farm parks and sites created can inform ongoing attempts to achieve balance between use, development and protection.	

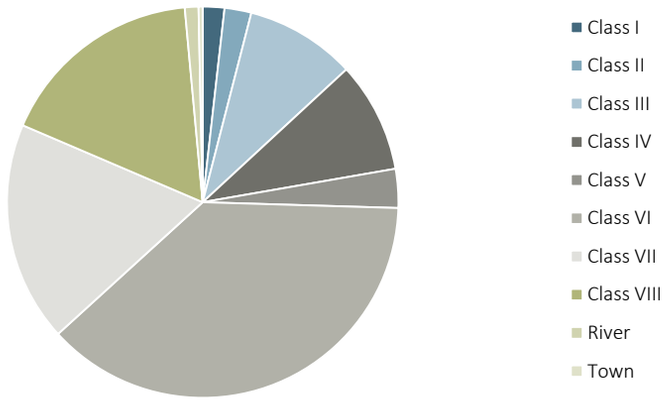
INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND HOW IT INFORMS THESE OUTCOMES	RELEVANT DISTRICT PLAN OUTCOMES
VS5	Rezoning of Rural/Plains Zone Land	Pressure	Rezoning of the Plains Zone is a good indicator of the impact of urban expansion and development on the extent of the finite soil resource of the Heretaunga Plains.	
VS6	Land Use Consents Granted in the Plains Zone	Pressure	The types of land use consents that are granted in the Plains Zone provides an indication of what activities are occurring on the finite soil resource other than those directly related to land-based primary production, and thereby what pressures are impacting on it.	

Monitoring information

VS1: Versatile Soils in the District

Class I, II and III soils are generally considered the most fertile and versatile, and contain the greatest productive potential for farming and horticulture. There are 68,370 hectares (or 13.1%) of the District comprising class I, II or III soils.

Figure 14: Land Area by Land Use Capability (1997)



Source: LRI Land Use Capability Data, Landcare Research

The New Zealand LRI data (including the Land Use Capability data) has not been updated since 1997, and there are no plans to review it in the near future.

Indicator VS2: New Dwellings in the Rural/Plains Zones

New dwellings in the Rural and Plains zones provide a useful indication of the urbanisation of the soil resource.

The settlement pattern in the Heretaunga Plains Urban Development Strategy (HPUDS) is made up of key growth areas that have been identified within Napier City and Hastings District. HPUDS outlines a settlement pattern out to 2045 involving an increase in the number of households on smaller lots. This is achieved by focusing development into the key growth areas identified.

The key elements of the settlement pattern out to 2045 are:

- 60% intensification (10 – 20% intensification or brownfields)
- 35% greenfield
- 5% of population in rural areas.

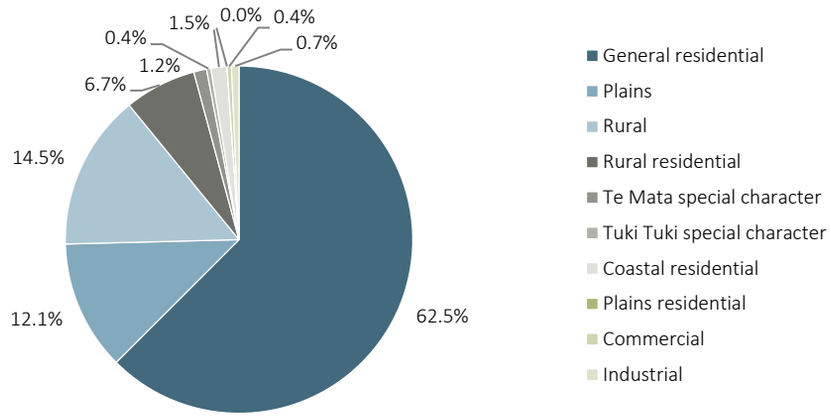
Previous Urban Growth Strategy[9] parameters identified a preferred balanced growth strategy for the Hastings District, targeting 70-75% of future growth in new dwellings within the existing urban residential areas (comprising 15% consolidation/infill and 85% new greenfields) and 25-30% from the rural areas (comprising 50% rural residential, 30% rural town, 10% rural and 10% Maori land).

One of the aims of HPUDS is to have defined urban areas. This allows for more cost effective and efficient servicing and creates definite boundaries between the urban and rural environments[10].

The following chart compares the actual distribution of building consents for new dwellings in the Hastings District by zone for 2009 to 2014 against the previous State of the Environment reporting period.

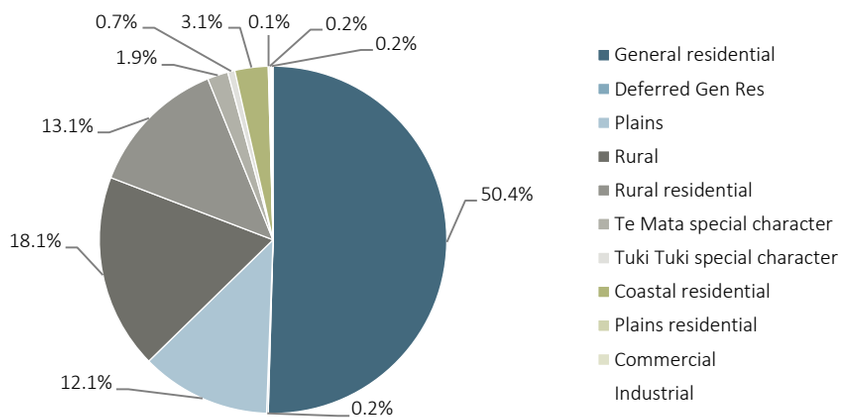
[9] *Hastings Urban Development Strategy Review,* 1999, Hastings District Council.
[10] Heretaunga Plains Urban Development Strategy, 2010, Hastings District Council, Napier City Council & Hawke's Bay Regional Council.

Figure 15: Comparison of Building Consents for New Dwellings by Zone for 2001-2008 and 2009-2014



Source: Hastings District Council

Figure 16: Total Building Consents by Zone (2009-2014)



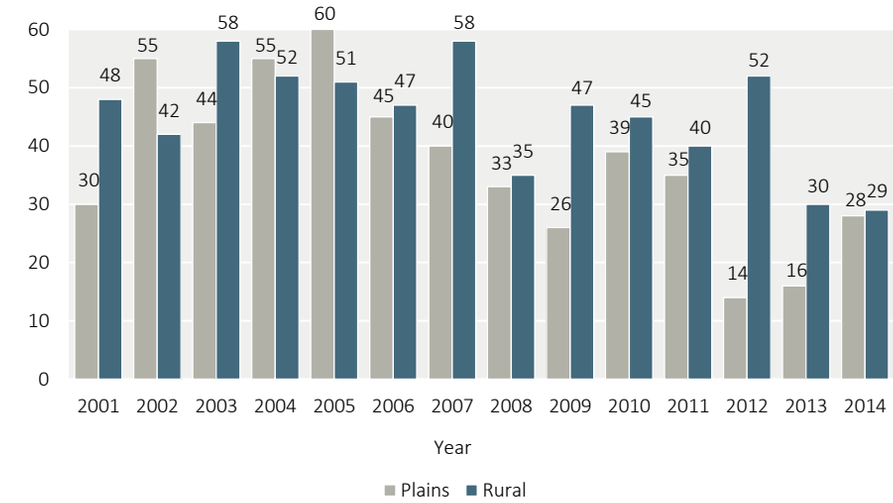
Source: Hastings District Council

Just over half of all new dwellings in the period from 2009 to 2014 were within the urban zones.

As expected, this was mostly within the General Residential Zone which accounted for 50.4%, with a further 3.1% in the Coastal Residential Zone.

Another third comprised 12.1% and 18.1% of new dwellings in the Plains and Rural Zone, respectively. In the previous reporting period, these figures were 13% and 12% respectively. The Rural Residential Zone contributed 13.1% (compared to 5.6% in the previous reporting period). This suggests that attempts to redirect residential development off the Plains and into the Rural Residential Zone and wider Rural Zone is having some effect. The proportion of new dwellings in the Te Mata and TukiTuki Special Character Zones has largely remained the same at about 2.6% (combined) of all new dwellings.

Figure 17: Building Consents for New Dwellings in the Rural & Plains Zones (2001-2014)



Source: Hastings District Council

Demand for building consents to erect new dwellings in the Rural Zone and Plains Zone shows continuing demand, although this is slowing. Building consents for new dwellings in the Plains Zone doubled between 2001 and 2005 from 30 to 60 dwellings, but then fell away dramatically in 2008 and 2009 when the Global Financial Crisis hit. Dwellings in the Plains Zone fell to their lowest point in 2012, to just 14 dwellings. Since 2012, the

number of new dwellings in the Plains Zone has increased slightly, but numbers are still well below the number experienced during the early-mid 2000s.

Interestingly, the level of building consents for new dwellings in the Rural Zone has not altered so dramatically. This may be due to the number of Rural Zone subdivisions compared with Plains Zone subdivision over the reporting period.

The data suggests that building consents for new dwellings in the Rural and Plains Zones account for 30% of all consents of this type (compared with 27% at the time of the previous report). This suggests that there is increasing pressure on the Heretaunga Plains and the rural resource as a result of residential development.

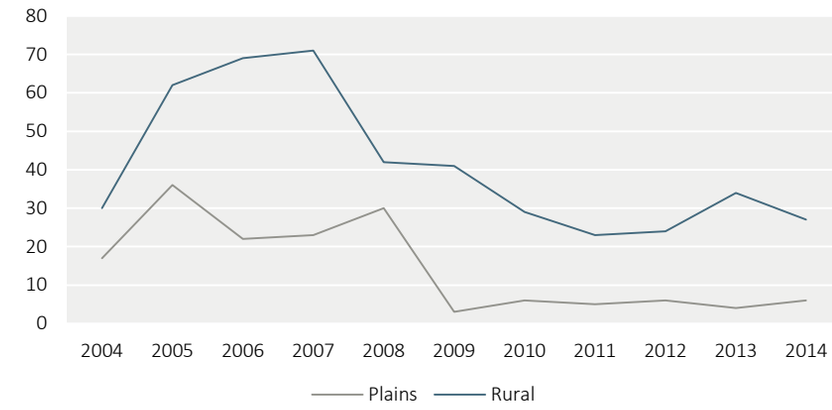
Indicator VS3: Subdivision in the Rural/Plains Zones

Subdivision can lead to fragmentation of the soil resource, and an increased and accelerated supply of smaller sites may not safeguard the life-supporting capacity of the rural soil resource. Fragmentation creates expectation of higher land value, making land aggregation more expensive.

HDC has been particularly tough when it comes to implementing the provisions of the Plains Zone in order to protect the plains zone resource. The Council has also had a number of successful Environment Court cases supporting the Council's stance on soil protection. The following graphs show that the number of Plains and Rural Zone subdivision consents granted has dropped significantly.

Subdivision in the Plains and Rural Zones therefore, is an indicator of fragmentation of the rural land resource. The following graphs show the number of subdivision applications granted for the Plains and Rural Zones for the 5-year period to 2014[11].

Figure 18: Total number of subdivision consents granted in the Rural and Plains Zones 2004-2014



Source: Hastings District Council

During the first State of the Environment reporting period, subdivision applications in the Rural Zone peaked at 70 in 2007 before dropping back to 42 in 2008. Since then, subdivisions in the Rural Zone have generally stabilised between 20 and 30 applications a year. This likely reflects low demand due to a variety of factors, including a subdued economy following the global financial crisis.

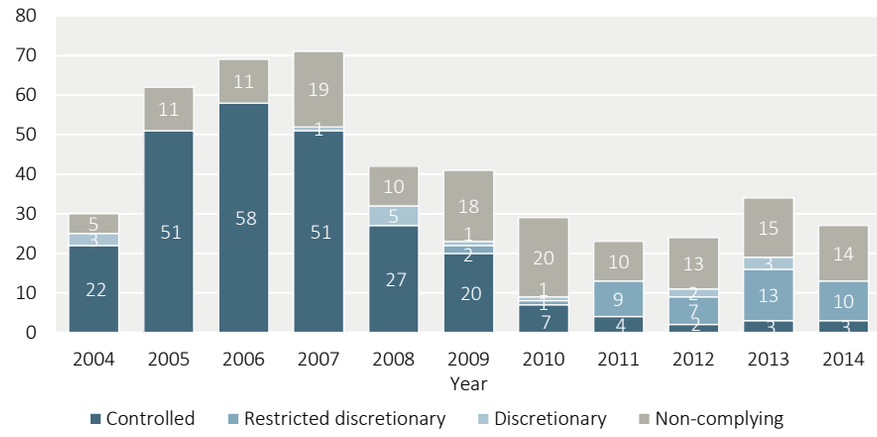
Non-complying activities represent development that may be contrary to the District Plan. Therefore, the number of non-complying subdivisions provides a strong indication of 'pressure' to develop land over time.

The proportion of non-complying subdivisions fluctuated between 15-25% of subdivisions in the Rural Zone each year during the first State of the Environment reporting period to 2008. Whilst in nominal terms, the number of non-complying subdivisions in the Rural Zone has remained steady at around 10-20 applications per year, they now account for around 40-50% of all subdivisions in the Rural Zone – peaking in 2010, when non-complying subdivisions accounted for 20 of the 29 applications (about 70%). This peak may have been in response to changes to the District Plan signalled through notification of Plan Change 49, which reduced the

[11] The subdivision data used for this indicator excludes any subdivisions solely for the purpose of boundary adjustment, creating rights of way, or amalgamation.

minimum lot size for lifestyle subdivision in the Rural Zone. Anecdotally, a number of the non-complying subdivisions have been for oversize lifestyle sites.

Figure 19: Subdivision Applications in the Rural Zone (2004-2014)

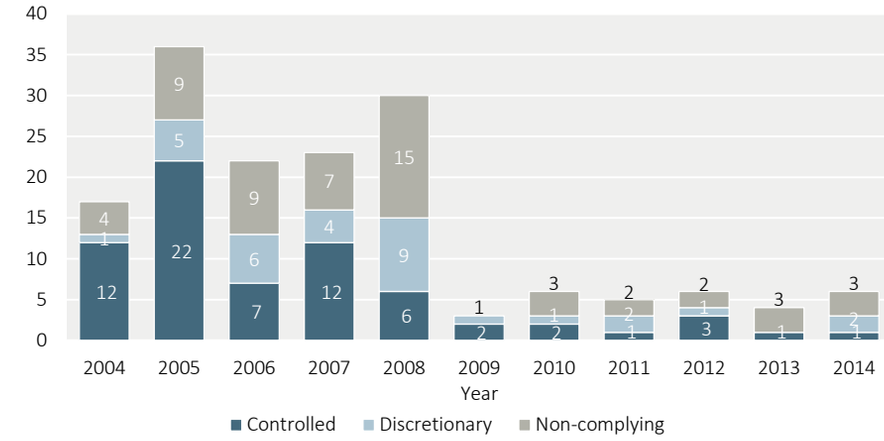


Source: Hastings District Council

Subdivision applications affecting the Plains Zone fluctuated over the 2004-2008 reporting period (averaging about 20-25 per year). However, the number of applications dropped dramatically from 2009 onwards, averaging around 5 applications per year. Again, this reduced demand could be in response to the onset of the global financial crisis.

The proportion of non-complying subdivisions in the Plains Zone were steadily increasing between 2004 and 2008 to almost 50% of all subdivisions in the zone in 2008 (15 of the 30 applications). Since then, non-complying subdivisions have continued to account for around half of the subdivision applications in the Plains Zone, but in numerical terms this is only around 2 or 3 applications per year.

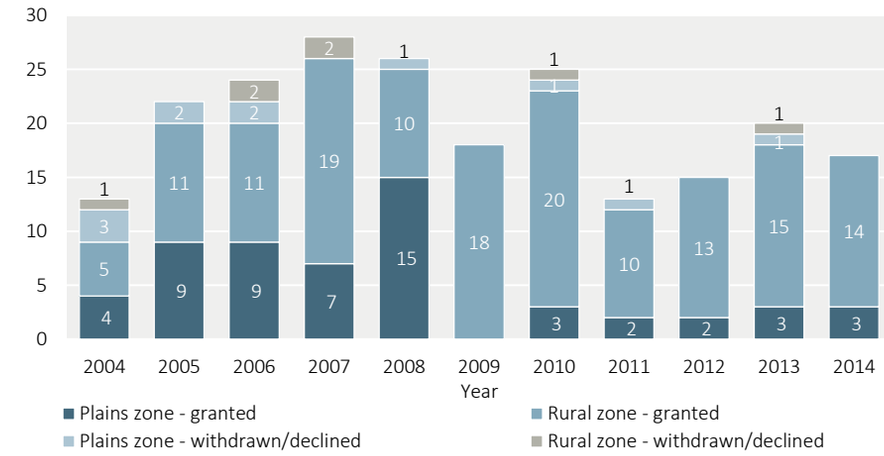
Figure 20: Subdivision Applications in the Plains Zone (2004-2014)



Source: Hastings District Council

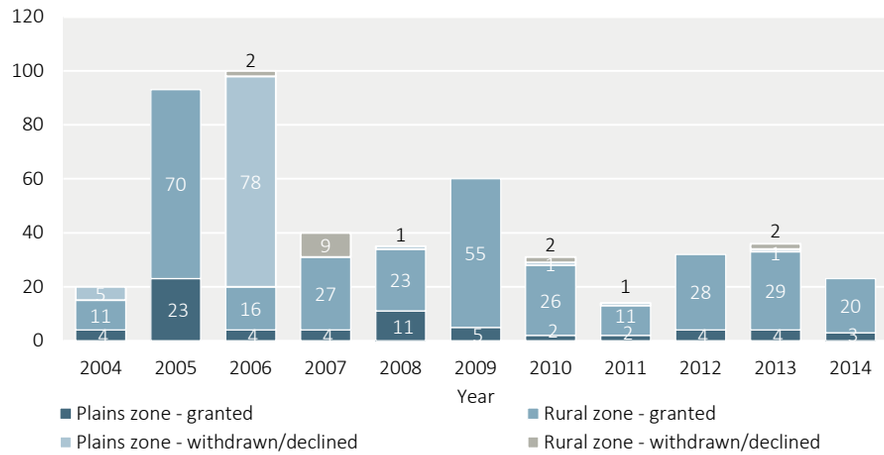
The following graphs show the number of successful non-complying subdivisions in the Plains and Rural Zones, and the number of subsequent new lots created.

Figure 21: Non-Complying Subdivision Granted in the Rural & Plains Zones (2004-2014)



Source: Hastings District Council

Figure 22: Non-Complying Lots Established in the Rural and Plains Zones (2004-2014)



Source: Hastings District Council

The total number of non-complying subdivision applications increased over the 5-year period to 2008, as people likely took advantage of the buoyant economy and a growing population. However, since then the number of non-complying subdivision applications have remained fairly steady at around 15-20 applications per year, and the lot yield has hovered around 30 lots per year (with the exception of 2009 which yielded 60 new lots – 55 of these in the Rural Zone).

The higher number of lots granted in the Rural Zone may reflect the slightly more relaxed policy framework and rules for the Rural Zone in the District Plan (in preference to subdivision of the highly fertile Heretaunga Plains soil resource), and provision for farm park subdivisions.

Approximately 70% (63 of 88) of all non-complying subdivisions granted in the Plains and Rural Zones between 2004 and 2008 were for just one additional lot or involved amalgamation to avoid additional lots being created. This trend has continued during the current reporting period (2009 to 2014), with single or no additional lot subdivisions comprising about 78% of the total number of non-complying subdivisions granted during that period (81 of 103). Subdivisions of this nature most likely continue to reflect the carving off of surplus land or dwellings to release capital, which is generally provided for in the District Plan in limited circumstances where the balance area is amalgamated to form larger rural lots.

Similar to the previous reporting period, around half the remainder were for 2 additional lots (12 of 22), and just four non-complying subdivisions that were granted involved creation of 10+ lots (none of these affected the Plains Zone).

These were:

- A 15-lot subdivision in the Rural Zone (Waimarama Road) in 2009;
- A 20-lot subdivision in the Rural Zone (Ocean Beach Road) in 2009;
- A 15-lot subdivision in the Rural Zone (Kereru Road) in 2012; and
- An 11-lot subdivision in the Rural Zone (Matangi Road) in 2013.

With the exception of the Kereru Road subdivision, these were all Residential Farm Park subdivisions.

Subdivision in the Rural and Plains Zones between 2009 and 2014 appears to indicate reduced pressure on the rural soil resource for residential development purposes, and effective control of land fragmentation on the Plains.

Indicator VS4: 'Farm Park' Subdivision in the Rural Zone

Residential Farm Parks are another mechanism to cater for demand for rural residential lifestyle sites. 'Farm parks' are a form of rural residential development which recognises a desire for smaller rural residential sites, and enabling this by retention of the majority of the parent title for continued land based activities (often administered by a body corporate comprising the owners of the residential sites).

The benefit of farm park subdivisions, in contrast with traditional rural subdivision, is efficient and effective operation of the balance farm/lot in the long term i.e. minimising the loss of productive soils, and better compatibility with the pattern of development on adjoining land, and avoiding reverse sensitivity issues/conflict with neighbouring land based activities. The uptake of residential farm park provisions can provide an indication of a more sustainable rural subdivision approach when compared with standard lifestyle subdivision.

The Hastings District Plan specifically provides for 'farm park' developments in the Rural Zone as discretionary activities under certain conditions. Farm park subdivisions are not

specifically provided for in the Plains Zone, reflecting the strong emphasis away from fragmentation of the Plains soil resource.

There were 5 residential farm park subdivision applications in the Rural Zone during the previous State of the Environment reporting period. A further 6 farm park applications (plus a variation to a previous farm park) have been applied for between 2009 and 2014. These are:

- 15-lot subdivision (Waimarama Road), applied for in 2009, granted in 2010 – non-complying;
- 20-lot subdivision (Ocean Beach Road), applied for in 2009, granted in 2011 – non-complying;
- 22-lot subdivision (Middle Road), applied for in 2009, granted in 2011) – discretionary;
- 4-lot subdivision (Taihape Road), applied for in 2012, granted in 2013 – discretionary;
- 11-lot subdivision (Matangi Road), applied for in 2013, granted in 2015 – non-complying;
- 3-lot subdivision (Matangi Road), 2013 – this was subsequently withdrawn;
- 15-lot subdivision (Ocean Beach Road), applied for in 2014 – currently being processed.

The residential farm park concept was relatively new to the District at the time of the first State of the Environment Report. After 10 years, farm parks are still relatively small in number, but make up almost all subdivision applications in the Rural Zone involving the creation of more than 3 lots. This suggests that the larger rural lifestyle subdivisions in the Hastings District are adopting more sustainable land use principles.

Given the small numbers, it may be that farm park subdivision is not a particularly informative indicator of pressure on the rural resource, and on versatile soils in particular, and it would be worth reviewing the value of retaining this indicator for future State of the Environment monitoring or combining this into the wider rural/plains subdivision indicator (VS3). However, there have been a number of resource consent applications to establish commercial, industrial, and residential activities in the Plains and Rural Zones, suggesting there is still some pressure on these areas of the District. This will be discussed in further detail in Indicator VS6.

Indicator VS5: Rezoning of Rural/Plains Zone Land

The demand for and granting of plan changes to rezone Rural and Plains zoned land reflects a direct loss of soils for land based primary production purposes.

Over the first State of the Environment reporting period to 2008, approximately 183 hectares (0.62%) of the Plains Zone and 466 hectares (0.09%) of the Rural Zone was re-zoned for urban development (residential, rural residential, industrial, sports park etc). The majority of rezoning during that period was for residential or rural residential purposes.

Since then, however, there have been only 3 rezoning requests affecting Plains Zone and no rezoning requests affecting Rural Zone land. In total, approximately 96 hectares (0.33%) of Plains Zone land was rezoned for urban development (mostly for industrial expansion purposes).

The three rezoning requests affecting the Plains Zone were:

1) Plan Change 50 requested by Hastings District Council to facilitate the rezoning of 78.4 hectares at Irongate to a Deferred Industrial zoning. This plan change request was notified in September 2010, and approved in May 2011

2) Plan Change 52 requested by Summerset Villages Limited to rezone 1.39 hectares to a General Residential zoning. This plan change request was notified in February 2011, and approved in May 2011

3) Plan Change 56 requested by Elwood Road Holdings Limited to rezone 16.6 hectares to an Industrial zoning. This plan change request was notified in March 2012, and approved in December 2012

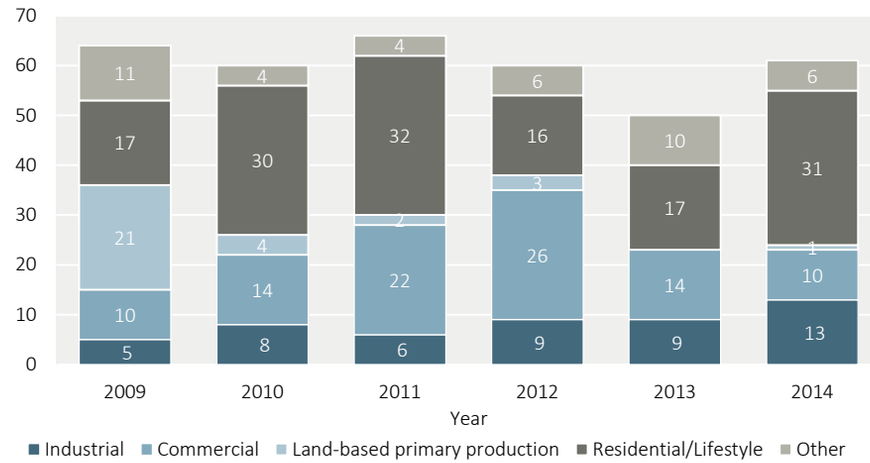
The low number of rezoning requests since the first State of the Environment Report and a focus on rezoning more for industrial expansion purposes suggests that pressure to urbanise the Plains Zone has significantly reduced. However, this may also be linked to the Global Financial Crisis. Overall, since the Hastings District Plan was made operative in 2003, there has been a reduction in the size of the Plains Zone in the order of 0.95%, and a 0.09% reduction in the size of the Rural Zone.

Indicator VS6: Types of Land Use Consents Granted in the Plains Zone

It was identified in the first State of the Environment Report that monitoring the demand and types of land use consents for activities not directly related to land based

primary production, could provide further valuable information about pressure to develop on the versatile soils of the Heretaunga Plains.

Figure 23: Types of Land Use Consents applied for in the Plains Zones (2009-2014)



Source: Hastings District Council

Since 2009, Council has tracked and categorised this data. In 2009 there were 21 consents for land based primary production activities; however 10 of those were for frost fans.

About this time, Council notified changes to the District Plan (Plan Change 46) including increasing the permitted height for a frost protection fan (frost machines) from 10 metres to 15 metres. Once this rule change was made operative in February 2010, consents for frost fans were effectively no longer required. Requirements for land use consent for land based primary production activities after 2009 have been minimal.

The number of land use consents for activities not directly related to land based primary production has averaged 45 consents per year (and ranged from about 38-58 in any given year). The data suggests a small increasing trend to establish industrial and commercial land use activities in the Plains Zone, peaking in 2012, and a fairly constant demand for residential/lifestyle consents (averaging about 25 consents per year). A large proportion of those residential/lifestyle consents over this period were for oversized secondary dwellings, yard encroachments, or relocated dwellings.

After doubling between 2001 and 2005, building consents for new dwellings in the Plains Zone fell to their lowest point to just 14 dwellings in 2012.

The number of subdivision consents granted has dropped to between 20 and 30 applications a year over the reporting period. This is compared with the previous reporting period, where up to 70 Rural Zone subdivisions were granted each year. Of those, the number of non-complying subdivisions in the Rural Zone has remained steady at around 10-20 applications per year, accounting for around 40-50% of all subdivisions in the Rural Zone.

Subdivision applications affecting the Plains Zone dropped dramatically from 2009 onwards, to an average of around 5 applications per year.

Much of this downward trend in building consents and subdivision demand likely reflects softening of demand as a result of tougher economic conditions.

Since 2008 the number of non-complying subdivision applications in the Rural and Plains Zones has remained fairly steady at around 15-20 applications per year, and the lot yield has hovered around 30 lots per year. Single or no additional lot, subdivisions continue to comprise the majority of subdivisions across the Rural and Plains Zones (more than 80%). There were just 5 subdivisions involving more than 10 lots granted in the Rural Zone since 2008, and none in the Plains Zone.

Subdivision in the Rural and Plains Zones between 2009 and 2014 appears to indicate reduced pressure on the rural soil resource for residential development purposes, and also suggests particularly effective policy to control land fragmentation of the Plains Zone by providing for lifestyle lots only where the amalgamation of balance lots into complying land holdings occurs.

This is further evidenced in the low number of rezoning requests since the first State of the Environment Report (only 3 requests since 2008) and these were more to facilitate already signalled long term strategic industrial expansion.

Land use consents in the Plains Zone have remained fairly steady, with a small increasing trend to establish industrial and commercial activities in the Zone, peaking in 2012.

Responses

For the Community

- If you wish to live in the country, consider buying properties in the established Rural Residential and Lifestyle Character Zones.

For Council

- Continue to review the effectiveness of District Plan provisions applying to subdivision and development in the Plains Zone
- Continue to monitor the types of resource consents applied for in the Plains Zone to track pressure on the finite soil resource of the Heretaunga Plains from activities not directly related to land based primary production
- Monitor the aggregation of land supported by cutting of surplus residential sites
- Continue to implement and review the Heretaunga Plains Urban Development Strategy (HPUDS).

Air & Water Sustainability

Air & Water Sustainability

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Air Quality				
AQ1	Levels of particulate matter (PM_{10}) in the air			Overall PM_{10} concentration levels are improving, as has the number of non-compliances with the NES. In 2014, the levels exceeded the guideline on only 5 days – the lowest number of occasions since continuous monitoring began back in 2006. However, Hastings still has a way to go to achieve full compliance with the NES guidelines.
AQ2	Residents' concern regarding air pollution			Level of concern is improving, with 40% surveyed being concerned or very concerned about air pollution in 2014, compared to 47% in 2008.
Water Quality				
WQ1	Surface water quality			It is difficult to conclude whether or not there has been any change in surface water quality in the Hastings District based on the information currently available. However, action is being taken to improve surface water quality. As highlighted above, more detailed reports are expected to become available in November 2015.
WQ2	Council's urban stormwater discharge consent compliance	-		Hastings District Council has 15 resource consents to divert and discharge urban stormwater in and around Hastings City and Havelock North. These were granted in 2010 and monitoring of the discharge from the HDC network has been on-going since 2010 and a significant amount of data has been gathered. This information indicates there are contaminants associated with stormwater discharge.
WQ3	Residents' rating of water pollution as a problem	-		Level of concern that water pollution is a real problem in the Hastings District is high – with 70% surveyed being 'concerned' or 'very concerned'.

The management of air and water quality are functions of the Hawke's Bay Regional Council under Section 30 of the RMA.

The following section summarises representative monitoring work undertaken by the Hawke's Bay Regional Council in respect of water and air quality, specifically for Hastings District. The Hawke's Bay Regional Council's own State of the Environment Reports provide more detailed reporting on the state of these resources for the region.

The Hastings District relies heavily on its soil and water resources. The activities using these resources throughout the rural area in particular make a significant contribution to the social and economic well-being of the District. In the Hastings District, water is essential given the dry weather patterns experienced. The largest source of water is the Heretaunga Basin – a vast groundwater resource which provides for the communities of the District, as well as supporting industrial and agricultural activities.

According to Hawke's Bay Regional Council, Hawke's Bay enjoys reasonably clean air due to a relatively low population, low traffic volumes and only a few major industries. However, local air quality does occasionally experience times of reduced quality, which has been largely attributed to domestic heating (woodburners and fires) in the cold winter months.

The Regional Council has also determined that the District enjoys very good groundwater and marine water quality. Surface water quality (rivers and lakes), however, is somewhat less consistent across the District.

HDC Stormwater Network Consent

The Urban Stormwater Consent held by Hastings District Council (HDC) was granted in May 2010 by the Hawke's Bay Regional Council (HBRC). It is a 12 (twelve) year consent to protect and where appropriate, enhance inland waterways by managing the quantity and quality of the stormwater discharges from Hastings, Flaxmere, Clive and Havelock North to protect the aquatic environment.

It is envisaged that on-going collection of information and review of that information will drive changes to the management of the stormwater system over the life of the consent. These changes will be monitored and assessed. Further changes will be made to the management of the network, based on the collection and analysis of monitoring data and system performance.

To achieve this long term change, the consent contains a number of conditions which broadly fall into the following groups. The management approach is based on these themes, with targeted strategies put in place that are consistent with the consent conditions. A catchment management plan has been developed to provide guidance and to implement methods to increase awareness of stormwater related issues and to improve the overall discharge from the main urban areas in the Hastings district.

HDC STORMWATER MANAGEMENT APPROACH

Air Quality

Air quality within Hawke's Bay is generally very good, but on some calm cold winter nights, when temperature inversions form, levels of very fine smoke particles can exceed health standards.

Particulate matter (PM_{10}) is the most significant air quality issue in the region. High concentrations of tiny airborne particles smaller than 10 micro-metres in size are in the smoke from fires and increase the risk of respiratory and cardiovascular illnesses. These particles are produced by burning wood and other fuels, as well as coming from natural sources such as dust and sea salt[12]. Therefore, particulate matter (PM_{10}) has been selected as the most representative indicator of air quality for inclusion in this report.

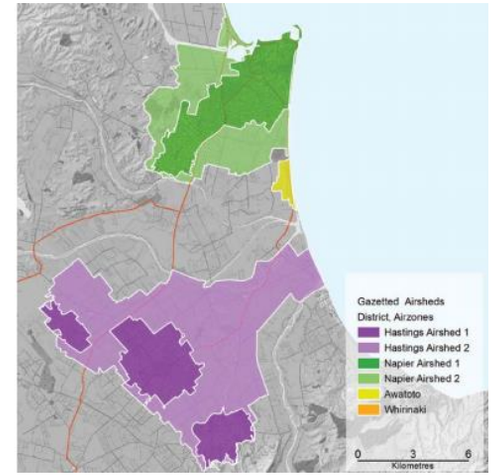
Hawke's Bay Regional Council monitoring shows that the level of particulate matter in the Hastings Airshed has continued to exceed the National Environmental Standards for Air Quality (NES)[13]. In the DPSIR Model, particulate matter levels in the air are a 'State' indicator.

Monitoring Information

Indicator AQ1: Levels of Particulate Matter (PM_{10}) in the Air

At the time the first State of the Environment Report for Hastings District was published, the NES had a universal target for all identified airsheds of no more than one exceedance of the standard for PM_{10} per year, to be achieved by 1 September 2013.

The Hawke's Bay Regional Council has identified two airsheds within the Region – one for Napier and the other for Hastings.



Map: Airsheds in Hawke's Bay
Source: Hawke's Bay Regional Council

In 2011, amendments to the NES were made to introduce new split target compliance dates depending on the state of the air quality in each airshed, to reflect more realistic compliance targets.

The Hastings Airshed is now required to achieve no more than three exceedances by 1 September 2016, and no more than one exceedance by 1 September 2020.

It is important to note that whilst the timeframe has been amended to be more achievable, the value of the PM_{10} standard itself (50µg/m3 as a 24-hour average, which is the World Health Organisation global guideline) has not changed.

[12] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013'*, 2015, Hawke's Bay Regional Council.
[13] Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 (and subsequent amendments)

Figure 24: Airsheds with the Highest Annual Number of PM_{10} Exceedances, 2006 – 2012

TABLE 6: AIRSHEDS WITH HIGHEST ANNUAL NUMBER OF EXCEEDANCES OF THE PM10 STANDARD, 2006-2012

Rank	2006	2007	2008	2009	2010	2011	2012
1	Nelson A (51)	Otago 1 (55)	Otago 1[1] (91)	Otago 1 (60)	Otago 1 (76)	Otago 1 (61)	Otago 1 (50)
2	Otago 1 (50)	Timaru (36)	Otago 2[2] (46)	Timaru (36)	Otago 2 (47)	Christchurch (34)	Timaru (34)
3	Richmond (37)	Rotorua (29)	Rotorua (39)	Otago 2 (35)	Timaru (39)	Timaru (30)	Reefton (27)
4	Timaru (36)	Nelson A (26)	Timaru (37)	Nelson A (34)	Invercargill (35)	Otago 2 (25)	Invercargill (23)
5	Christchurch (29)	Reefton (25)	Hastings (28)	Rotorua (27)	Kaiapoi (23)	Kaiapoi (23)	Christchurch (19)
6	Kaiapoi (28)	Richmond (21)	Nelson A (25)	Kaiapoi (23)	Reefton (22)	Otago 3 (17)	Richmond (16)
7	Ashburton (26)	Kaiapoi (20)	Christchurch (22)	Richmond (21)	Rotorua (16)	Rotorua (16)	Rotorua (16)
8	Nelson B (24)	Christchurch (17)	Richmond (20)	Tokoroa (17)	Tokoroa (16)	Ashburton (15)	Tokoroa (15)
9	Rotorua (23)	Ashburton (13)	Kaiapoi (19)	Reefton (16)	Christchurch (15)	Nelson A (15)	Kaiapoi (14)
10	Hastings (18)	Hastings (13)	Reefton (18)	Christchurch (15)	Hastings (15)	Invercargill and Hastings (12)	Rangiora (12)

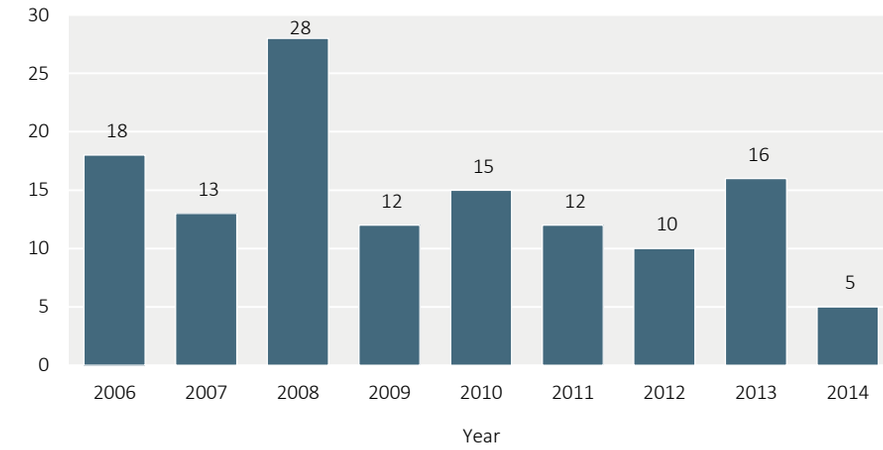
1. From 2008, results represent the consolidation of Alexandra, Arrowtown, Clyde and Cromwell data.
2. From 2008, results represent the consolidation of Mosgiel and Milton.

Source: Ministry for the Environment 2014 & Airshed Progress Report 2012, Wellington

Hastings featured in the ten airsheds with the highest annual number of exceedances of the PM_{10} standard in New Zealand, for 5 out 7 years between 2006 and 2012. Data was not available for 2013 and 2014.

The monitoring site for the Hastings Airshed is located at St John's College, Hastings. The following graph shows the number of days where PM_{10} in the air exceeded the National Environmental Standards for Air Quality (NES) as measured at this site. The previous State of the Environment Report only had 3 years' worth of data on PM_{10} levels from the St John's site using a continuous Beta Attenuation Monitor. There is now 9 years' worth of data available.

Figure 25: Number of days where PM_{10} exceeded National Environmental Standard for Air Quality at St John's College



Source: Hawke's Bay Regional Council

In those first 3 years of monitoring, PM_{10} exceeded the national air quality guidelines an average of 20 days per year. The number of exceedances peaked at 28 days in 2008.

Since that time, the number of exceedances has improved, averaging 13 days per year between 2009 and 2013. In 2014, the levels exceeded the guideline on only 5 days – the lowest number of occasions since continuous monitoring began.

In research commissioned by Hawke's Bay Regional Council in 2005 and again in 2010, domestic heating (woodburners and fires) was identified as the dominant source of PM_{10} during winter in Hastings by emission inventory, source identification, and airshed dispersion modelling (accounting for 92% of PM_{10} emissions in Hastings and 97% in Havelock North). Domestic heating in winter coincides with when concentrations of PM_{10} exceed the NES.

To comply with the NES by 2020, PM_{10} emissions in Hastings need to reduce by 71% (HBRC website). It has been determined that the only way to achieve this is to phase out inefficient wood burners and prohibit open fires in the Hastings Airshed.

At the time of the first State of the Environment Report, the Regional Council had just notified Proposed Plan Change 2 to the Hawke's Bay Regional Resource Management Plan (notified in December 2008), which sought to phase out inefficient domestic woodburners and open fires for home heating. Plan Change 2 is now fully operative – refer Rules 18b, 18c, 18f, 18g and 18h.

Under the new regional plan rules, the following phase out dates apply to properties less than 2 hectares in area:

Table 7: HBRC Plan Change 2 Rules

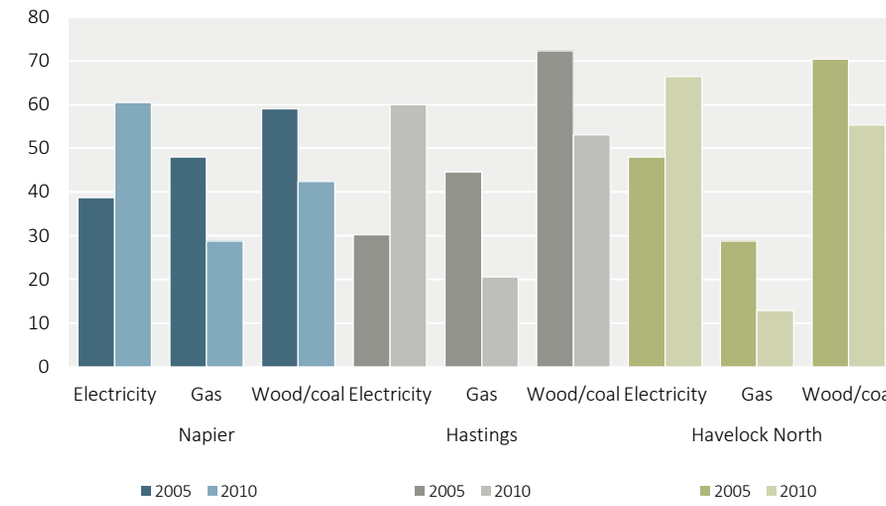
Open Fire or Burner Installation Date	Hastings Airshed 1 (Property <2ha)
Open Fires	Prohibited from use January 2012
Pre 1996 Non-Compliant Burners	Prohibited from use January 2014
1996-2005 Non-Compliant Burners	Prohibited from use January 2016
Post September 2005 Non-Compliant Burners	Prohibited from use January 2018

Source: Hawke's Bay Regional Council

Alongside the phasing out of inefficient woodburners and open fires, the Regional Council has also invested in funding Heat Smart initiatives to encourage home owners to insulate their homes and to install clean heat devices to further facilitate reduction in the amount of smoke and PM_{10} in the air.

Hawke's Bay Regional Council suggests that changes to home heating methods have already led to a decline in PM_{10} emissions to-date. The changes in home heating methods have helped reduce domestic heating emissions by approximately 18% in Hastings and 42% in Havelock North[14].

Figure 26: Proportion of Households using Electricity, Gas, Wood and Coal in 2005 and 2010



Source: Hawke's Bay Regional Council

Overall, air quality in the Hastings District is improving, but Hastings still has a way to go to achieve full compliance with the NES.

Indicator AQ2: Residents' Concern Regarding Air Pollution

Resident's level of concern regarding air pollution gives further insight into the quality of air in the District. Until 2008, Hastings District Council commissioned tri-annual Communitrak Surveys.

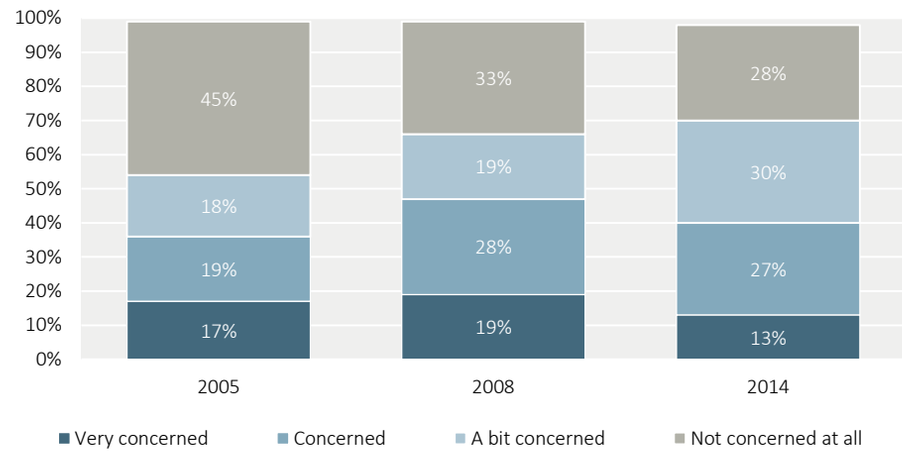
At the time of the first State of the Environment Report, almost half of the 503 respondents to the Council's Communitrak Survey were concerned about air pollution. Overall, 47% of those surveyed were 'concerned' or 'very concerned' about air pollution in 2008, significantly higher than in 2005 (36%).

This survey has since ceased. An alternative survey (Public Voice Survey) was undertaken in 2014, and 356 people responded to an identical question regarding concern about air pollution.

[14] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013'*, 2015, Hawke's Bay Regional Council.

In the Public Voice Survey, 40% of those surveyed were 'concerned' or 'very concerned' about air pollution. This suggests an improvement in people's perception of air pollution in the District. It is important to note however, that the most recent survey may have been carried out under slightly different survey parameters and may have introduced issues in terms of consistency.

Figure 27: Level of Concern Regarding Air Pollution (2005-2014)



Source: Communitrak and Public Voice Surveys, Hastings District Council

Whilst air quality in the District is generally very good, Hastings remains in the top 10 worst areas in New Zealand for the number of times PM_{10} levels exceed the National Environmental Standard for Air Quality per year.

However, since the first State of the Environment Report, overall PM_{10} concentration levels have improved, as has the number of non-compliances with the NES[15]. In 2014, the levels exceeded the guideline on only 5 days – the lowest number of occasions since continuous monitoring began. This improvement has been largely attributed to the phasing out inefficient domestic woodburners and open fires for home heating as a result of new rules.

At the same time, Hastings District resident surveys indicate the community is somewhat less concerned about air pollution; with the proportion of respondents being 'concerned' or 'very concerned' falling from 47% in 2008, to 40% in 2014.

Responses

For the Community

- Reduce the amount of heating needed by insulating your home, using thermal drapes and closing them before nightfall, and installing good seals round doors and windows
- Maximise the use of the sun's natural heating when designing new homes or extensions
- For existing domestic heating fires, use dry untreated wood, start the fire quickly, and maintain a hot, clean-burning fire
- Don't dampen down fires overnight, as the smoke build up inside and outside is unhealthy
- When burners reach replacement age, replace with compliant burners or non-emitting heaters such as heat pumps or central heating.

For Council

- Support Hawke's Bay Regional Council initiatives to reduce the levels of particular matter in the Hastings Airshed
- Continue to survey the community's perception of air quality in the District.

[15] For more detailed information about the state of air quality in the Hastings District, refer to the Hawke's Bay Regional Council's State of the Environment Reports.

Water Quality

Water is incredibly important in the Hastings District, particularly given the dry climate.

The groundwater resource is of particular significance as a main source of water for irrigation, industrial processing and especially drinking water. Hawke's Bay Regional Council monitors groundwater levels at various locations. A full network of monitoring sites were not installed until the early 1990's, so knowledge of groundwater level response to human influences is primarily limited to the last 20 years[16]. On the Heretaunga Plains, groundwater level declines have mainly occurred west of Hastings, near Flaxmere, and between Roy's Hill and Fernhill in the major recharge area, but the rates of decline vary between sites and across seasons.

Groundwater quality, particularly from the Heretaunga Plains basin, is generally of high quality. Hawke's Bay Regional Council monitors groundwater quality at key groundwater catchments in the region. Nitrate-nitrogen concentrations and the occurrence of E.coli are key indicators for both environmental and health related reasons, including the New Zealand Drinking Water Standards (NZDWS). In most cases, nitrate-nitrogen and E.coli levels are well within those national standards set by the Ministry of Health. Monitoring has not detected any elevated pollutants or naturally occurring chemicals of concern in this resource to-date.

Future climate change scenarios indicate it is likely to get drier and warmer than average, and the Regional Council anticipates that this will lead to a reduction in aquifer recharge rates and an increasing demand for groundwater. They therefore consider on-going monitoring of aquifer levels and groundwater quality as essential.

Overall, Hawke's Bay Regional Council advises that marine water quality is also consistently very good, although poor in estuarine areas (Waipatiki Lagoon, Maraetotara Lagoon, Waipuka Stream at Ocean Beach, and Puhokio Stream at Waimarama). Coastal water quality is addressed in more detail in the section of this Report relating to coastal amenity (and in the Regional Council's own state of the environment reporting).

Surface water quality in the District however, is not always the best, particularly during low flow periods in summer, and after heavy rainfall and flood events. For the purposes of this State of the Environment Report, surface water quality remains the representative indicator of water quality.

Water quality has a history of deterioration over time across New Zealand, and Hawke's Bay/Hastings District is no different. Since the first State of the Environment Report, there have been considerable policy changes affecting freshwater management. Hawke's Bay Regional Council notified Plan Changes 5 and 6 to the Regional Resource Management Plan. In the midst of these regional plan changes, Central Government also introduced its National Policy Statement for Freshwater Management, which came into effect in August 2014.

Proposed Plan Change 5 was notified in October 2012, and provides enhanced guidance and direction about how land and freshwater resources are to be managed across the region in an integrated manner. Amongst other things, Plan Change 5 outlines a broad

[16] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013'*, 2015, Hawke's Bay Regional Council.

approach to managing leaching of nitrogen, faecal coliform bacteria and phosphorus from the use of production land.

As at September 2015, this plan change has been adopted but is partly subject to appeal.

Proposed Plan Change 6 was notified in July 2013, and presents a catchment specific change to the Regional Resource Management Plan specific to the Tukituki River catchment. This change addresses specific water allocation and water quality issues in the catchment, and forms part of a wider proposal for the catchment that included resource consent applications for the proposed Ruataniwha Water Storage Scheme. As at September 2015, this plan change has been adopted subject to appeals.

Water quality monitoring of the District's rivers is undertaken by the Hawke's Bay Regional Council. Some of the issues identified by the Hawke's Bay Regional Council, as affecting surface water quality in Hastings District, are:

- Pollution from land use activities alongside rivers and waterways;
- Loss of riparian and aquatic vegetation; and
- Dumping of rubbish alongside rivers and waterways.

In the DPSIR Model, surface water quality sampling is a 'State' indicator.

In 2010 Hastings District Council was granted a discharge consent by the Hawke's Bay Regional Council for all urban stormwater discharges from the Hastings District Council stormwater network.

Since 2010 HDC has undertaken a significant level of monitoring of the stormwater network pipe-end discharges, sediment sampling of the receiving environment directly downstream of the pipe-end and ecological surveys of aquatic life in the receiving environment, as required by the network consent. In addition to this routine monitoring, Hastings District Council have undertaken similar monitoring along tributaries leading to the Karamu Stream.

The Karamu Stream is the ultimate receiving environment for all urban stormwater flows from the Hastings, Havelock North, Flaxmere and Clive communities. This information is shared with the Hawke's Bay Regional Council on a regular basis so a collaborative approach to understanding the surface water quality issues and where attention is best focussed to improve the quality of these waterways.

Hastings District Council has recently produced a first generation stormwater catchment management plan in 2015 to focus on methods to improve the management and quality of stormwater discharges from the stormwater network.

Monitoring Information

Indicator WQ1: Surface Water Quality

Hawke's Bay Regional Council monitors surface water quality with a focus on key nutrients including nitrogen (N) and phosphorus (P), faecal bacteria indicators (E.coli and Enterrococci), sediment (turbidity) and other environmental variables such as algae and the freshwater aquatic Microinvertebrate Community Index (MCI). The Regional Council compares the results of water quality monitoring samples for sites in Hawke's Bay against national values for comparable systems as well as against regional values.

The rivers monitoring programme consists of monthly water quality testing and observations of periphyton cover, as well as annual fish surveys, stream habitat assessments and macroinvertebrate sampling. The Regional Council monitors more than 70 sites across the region – 32 of these are in the Hastings District.

At the time of the first State of the Environment Report for Hastings, Hawke's Bay Regional Council had recently completed detailed state of the environment reports for each the various primary river catchments in the Region – including the Tutaekuri Catchment[17], Ngaruroro Catchment[18], Esk & Mohaka Catchments[19], Clive & urban stream catchments[20], and the Aropaoanui & Waikari Catchments[21].

[17] *'Water Quality in the Tutaekuri Catchment, State, Trends & Contaminant Loads'*, Sept 2009, report by Aquanet Consulting Ltd for HBRC.

[18] '*Water Quality in the Ngaruroro Catchment, State, Trends & Contaminant Loads'*, Sept 2009, report by Aquanet Consulting Ltd for HBRC.

[19] *'Esk & Mohaka Catchments Surface Water Quality & Ecology, State of the Environment Report 2009',* November 2009, HBRC EMT 10/07.

[20] *'Clive & Urban Stream Catchments Surface Water & Ecology, State of the Environment Report 2009'*, Sept 2009, HBRC, EMT 09/26.

[21] 'Aropaoanui & Waikari Catchments, State of the Environment Report 2009', September 2009, HBRC, EMT 09/28.

The first State of the Environment Report contained an overview of water and habitat quality for each of the main catchments as at 2008, based on these detailed reports.

In 2008, two sites in the Hastings District were below national and regional values for comparable systems. The two sites that fell short were the Ruahapia and Mangarau Streams which are urban streams[22]. In response to these monitoring results showing poor ecosystem health in urban streams, the Regional Council has since carried out targeted investigations of lowland/urban stream catchments.

In 2008, ecosystem/habitat health (measured using the Macroinvertebrate Community Index (MCI)) showed 4 sites had poor ecosystem health, being:

- Maraetotara River at Te Awanga;
- Waingongoro Stream at Waimarama Road;
- Puhokio Stream at Te Apiti Road; and
- Ngaruroro River at Whanawhana.[23]

Time series trends in ecosystem/habitat health in 2008, indicated 5 sites had shown some deterioration, and 3 sites had shown significant deterioration in habitat health since commencement of monitoring at each site. The three sites showing significant deterioration were identified as:

- Esk River at Waipunga Bridge;
- Ngaruroro River at Whanawhana; and
- Ngaruroro River at Ohiti[24].

For the purposes of this report, the following summarises results and trends in phosphorus (P) and nitrate-nitrogen (N) levels and macroinvertebrate community index (MCI) scores taken from current Hawke's Bay Regional Council's 5-yearly State of the Environment Summary Report for 2009-2013[25].

The Regional Council has divided the region into six sub-regions (A – F) for the purpose of surface water quality monitoring and analysis. The sub-regions represent catchments or groups of catchments. Those traversing Hastings District are:

- Sub-Region A (part): Maraetotara, Porangahau and Southern Coastal
- Sub-Region B (part): Tukituki River;
- Sub-Region C: Tutaekuri, Arahuri, Ngaruroro and Karamu (including Lake Runanga, Lake Oingo and Lake Kaweka);
- Sub-Region D: Mohaka River;
- Sub-Region E: Waikari, Esk and Aropaoanui (including Lake Waikopiro, Lake Tutira and Lake Opouahi).

Up-to-date detailed technical reports on the various catchment sub-regions (covering rivers, lakes and nearshore coastal monitoring sites) are due to be released in November 2015. These reports will collectively provide a more detailed catchment-specific assessment of the state of surface water quality in the region and may provide a useful baseline for the next reporting period.

Phosphorus

Phosphorus is an essential element for plant and algae growth. It occurs naturally, but in high concentrations it can promote rapid weed growth and algal blooms, and can affect ecosystem health.

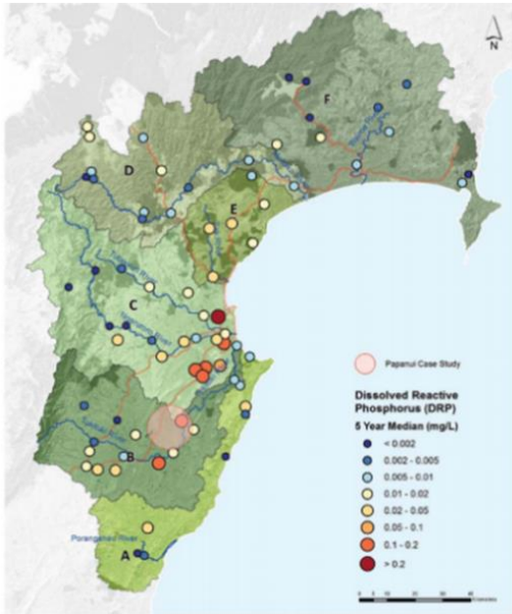
The following figures are taken from Hawke's Bay Regional Council's 5-yearly State of the Environment Summary Report 2009-2013.

Regional Council monitoring results indicate that over the past 10 years, phosphorus levels have improved at 5 sites and have deteriorated at 1 site throughout the region. Phosphorus levels remain high in many places and, overall, Hawke's Bay lags behind the rate of national improvement in phosphorus levels in streams[26].

[22] The data sets were too small to draw any real conclusions for urban stream catchments – urban streams had only been included in the water quality monitoring programme since 2007.
[23] The reasons for poor ecosystem health at these sites were not easy to pinpoint.
[24] As above.
[25] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013',* 2015, Hawke's Bay Regional Council.

[26] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013',* 2015, Hawke's Bay Regional Council.

Figure 28: Median Phosphorus Levels across Hawke's Bay (2009-2013)



Source: Hawke's Bay Regional Council

Figure 29: Dissolved Reactive Phosphorus Trends in Hawke's Bay over 10 Years

Sub region	Sites analysed	Sites improving	Sites deteriorating	Sites no trend
A Porangahau and Southern Coastal Catchments	8	2	0	6
B Tukituki	9	0	1	8
C Tank (Tutaekuri, Ahuriri, Ngaruroro, Karamu)	14	1	0	13
D Mohaka	6	2	0	4
E Esk, Waikare, Aropaoanui	5	0	0	5
F Wairoa	5	0	0	5
Overall Hawke's Bay	47	5 (11%)	1 (2%)	41 (87%)
Overall New Zealand	501	207 (41%)	26 (5%)	268 (53%)

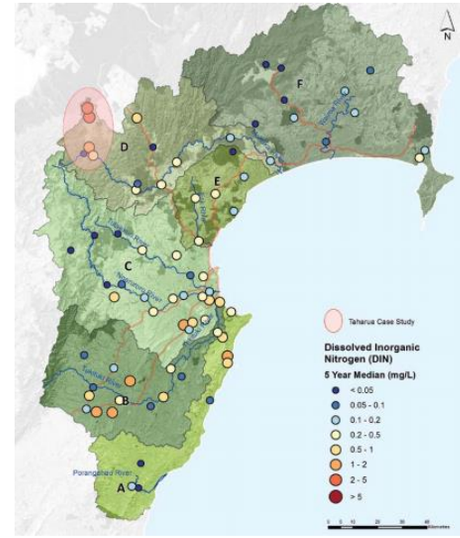
Source: Hawke's Bay Regional Council

Nitrogen

Nitrogen is another essential element for plant and algal growth. Similar to phosphorus, too much nitrogen can cause problematic weed growth if other necessary nutrients are also available and environmental conditions are favourable, and nitrates can be toxic to fish and macroinvertebrates. Common sources of nitrogen are fertiliser, septic tanks, sewage treatment works, animal effluent, and industrial discharges.

The following figures are taken from Hawke's Bay Regional Council's 5-yearly State of the Environment Summary Report. Regional Council monitoring results indicate that over the past 10 years, nitrogen levels have improved at 8 sites and have deteriorated at 5 sites throughout the region. Overall, Hawke's Bay is achieving a higher rate of improvement in nitrogen levels in streams compared to the national trend.[27]

Figure 30: Median Nitrogen Levels across Hawke's Bay (2009-2013)



Source: Hawke's Bay Regional Council

[27] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013'*, 2015, Hawke's Bay Regional Council.

Figure 31: Total Oxidised Nitrogen Trends in Hawke's Bay over 10 Years

Sub region	Sites analysed	Sites improving	Sites deteriorating	Sites no trend
A Porangahau and Southern Coastal Catchments	8	1	0	7
B Tukituki	9	4	0	5
C Tank (Tutaekuri, Ahuriri, Ngaruroro, Karamu)	15	1	1	13
D Mohaka	6	0	4	2
E Esk, Waikare, Aropaoanui	5	1	0	4
F Wairoa	5	1	0	4
Overall Hawke's Bay	48	8 (17%)	5 (10%)	35 (73%)
Overall New Zealand	504	86 (17%)	123 (24%)	295 (59%

Source: Hawke's Bay Regional Council

Macroinvertebrate Community Index

Macroinvertebrates are aquatic bugs large enough to be seen, and are sensitive to organic pollution. Their presence in waterways assists in determining the overall 'health' of a waterway.

The following figures are taken from Hawke's Bay Regional Council's 5-yearly State of the Environment Summary Report[28]. Monitoring indicates that MCI scores in the headwaters of Hawke's Bay streams are 'good' to 'excellent', while MCI scores in more modified parts of the region are 'fair' to 'poor'. Of note, MCI scores in the Karamu/Clive catchment were frequently 'poor' (amongst the lowest in Hawke's Bay), and this prompted the Regional Council to undertake targeted investigation across 16 lowland stream sites, which took place between 13 February and 4 March 2014.

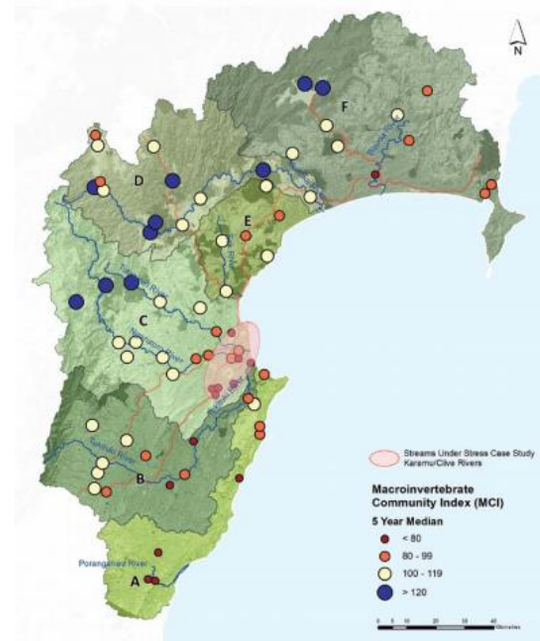
The Karamu Stream is an important catchment for Hastings District – draining water from horticultural land on the Heretaunga Plains, and also carrying the bulk of city stormwater to the Clive River which then flows into Hawke Bay.

During that investigation, it was determined that habitat quality was degraded at many sites. Temperature in some streams increased above 27°C and dissolved oxygen was very low for several hours each day. This strongly affected macroinvertebrate community composition – MCI was lowest at sites with high maximum temperature and low daily oxygen levels.

The Regional Council considers the most effective way to increase the life supporting capacity of these streams is to provide shade over the water with suitable riparian (riverside) vegetation.

There are more and more planted areas being managed along the Karamu Stream and a programme involving Hastings District Council and Hawke's Bay Regional Council working with stream neighbours, including the local Karamu Enhancement Group, to plant and restore the riparian margins. Other active guardians of the Karamu/Clive catchment within Hastings District are Ruahapia, Waipatu, Matahiwi and Kohupatiki Marae.

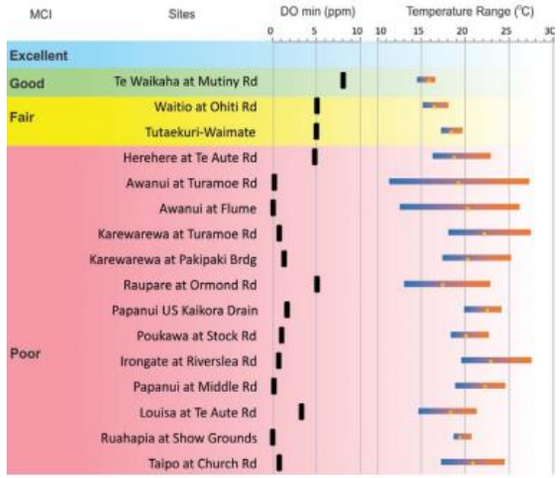
Figure 32: Median MCI scores across Hawke's Bay (2009-2013)



Source: Hawke's Bay Regional Council

[28] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013'*, 2015, Hawke's Bay Regional Council.

Figure 33: Macroinvertebrate Indicator Class at Study Sites in Hawke's Bay (13 February – 4 March 2014)



Source: Hawke's Bay Regional Council

It is difficult to conclude whether or not surface water quality in the Hastings District has improved based on the information currently available. However, action is being taken to improve surface water quality.

As highlighted above, more detailed reports are expected to become available in November 2015.

Indicator WQ2: Urban Stormwater Discharge Compliance

Since 2011, sediment quality, macroinvertebrate community structure, and stormwater quality were monitored at multiple sites across a number of waterways that receive stormwater runoff from the Hastings urban area.

The most comprehensive monitoring was of benthic sediment quality. Sediment monitoring covered a total of 33 sites across 17 tributaries of the Karamu Stream, plus 6 sites on the main-stem of the Karamu Stream. Muddy Creek at Clive was also included in this monitoring. Thirty-three sites were sampled in 2011 and 23 sites were sampled annually since 2012.

Semi-quantitative (non-replicated) macroinvertebrate sampling was carried out during 2011 at 33 sites, and at 24 sites during 2014. Comparative samples are available at 21 sites for the 2011 and 2014 surveys.

Water quality monitoring during rainfall events were carried out at 3 sites – Ruahapia 4, Irongate 3, and Wellwood 1 over a small number of individual rainfall events. Each site was located near the end of the reticulated urban stormwater network and results confirmed there are instances where the stormwater water contamination levels are above the low level trigger values in the ANZECC guidelines.

Sediment Quality

Concentrations of stormwater indicator contaminants (Copper, Lead, Zinc, Total Polyaromatic Hydrocarbons) in sediments vary widely across the 33 sites. For example, the 'background' sites 'Awanui 1' and 'Raupare 2', which receive no urban stormwater runoff show consistently low concentrations, while depositional waterways such as the Ruahapia, Riverslea, Mallory, Mahora, Windsor, Tomoana, and Wellwood Drains, the Irongate Stream, and sites within the Karamu Stream as far upstream as Havelock North, typically show signs of contamination by one or more stormwater indicator parameters – most commonly zinc.

Comparison of stormwater contaminant concentrations in sediments from the Havelock North streams suggests accumulation of contaminants is less of an issue in these steeper gradient/higher velocity environments. It is possible a greater proportion of contaminants would be transported to the Karamu Stream, within which deposition is more likely to occur. The most contaminated sediments are found in the Ruahapia Stream (RUA4) where zinc and lead concentrations are well in excess of the respective ANZECC High Trigger Value, and other contaminants such as arsenic, chromium, mercury, nickel and PAH are elevated – in particular at the urban edge.

Typically in the depositional tributary waterways stormwater indicator contaminant concentrations are highest at the urban edge and decrease steadily in a downstream direction toward the Karamu Stream. Elevated concentrations of stormwater contaminant concentrations at most tributary monitoring sites (where they are available) immediately prior to convergence with the Karamu Stream suggest some transport of contaminants from urban areas to the Karamu Stream. An accumulation of stormwater indicator contaminants within the Karamu Stream, in a downstream direction, supports the view that urban stormwater contaminants are mobilised to the Karamu Stream. No data has been collected downstream of the Karamu– Raupare

confluence (i.e. in the Clive River) so it is not known what contaminant concentrations are in the lower catchment.

Macroinvertebrates

Macroinvertebrate communities are most healthy in the Havelock North streams, where SQMCI results suggest 'Fair' and 'Poor' quality. Semi-quantitative invertebrate sampling in Havelock North streams suggest reasonably stable conditions between the 2011 and 2014 sample events. Low gradient tributaries of the Karamu Stream, and the Karamu Stream itself, support macroinvertebrate community scores fitting the qualitative descriptor 'Poor'. There is some variation in sample scores between 2011 and 2014, however, the significance or causes of those differences are difficult to determine, and a causative link to stormwater contamination is equally difficult to establish. Macroinvertebrate community scores in the Ruahapia Stream, especially at the urban edge (RUA4) were notably reduced in 2014 compared to 2011 – and the score returned from RUA4 during 2014 (SQMCI = 27) suggests a heavily impacted, very unhealthy aquatic environment.

Stormwater Quality

In stormwater, zinc is the key dissolved stormwater contaminant consistently found, with lead and copper typically present in lesser concentrations. Of the three sites where stormwater has been sampled, Ruahapia 4 has the highest concentrations of stormwater indicator parameters. Stormwater discharged from the Irongate 3 outlet was found to have increased zinc downstream after reasonable mixing, however, interestingly, the discharge outlet had an apparent (although not always statistically significant) diluting influence on nutrients and turbidity as measured downstream of the outfall after reasonable mixing.[29]

[29] Summary of Findings from Hastings District Urban Stormwater Monitoring – Forbes Ecology

Stormwater Quantity

In addition to stormwater quality management, the network consent requires Hastings District Council to mitigate the effects of increased runoff from new developments within the urban areas of the district.

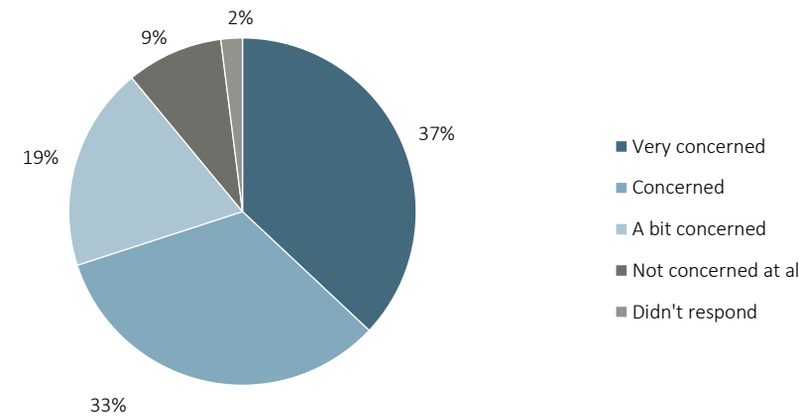
Council now requires new developments to be compliant with the Hastings District Council's Engineering Code of Practice and other relevant documents so that individual sites control stormwater runoff to minimise the risk of overloading the network, causing ponding issues within roads and private property.

Indicator WQ3: Residents' Rating of Water Pollution as a Problem

Resident's level of concern about water pollution gives further insight into the perception of the state of water quality in the District.

Council's Public Voice Survey was undertaken for the first time in 2014, and 98% of the 356 people surveyed responded to a question asking whether they consider water pollution is a problem in the Hastings District.

Figure 34: Survey of Residents' Perception of Water Pollution as a Problem (2014)



Source: Public Voice Survey, Hastings District Council

There is a strongly held perception from those surveyed that water pollution is a real problem in the Hastings District – 70% were 'concerned' or 'very concerned'.

This is a new indicator added since the first State of the Environment Report, and the first time this question has been put to the community, so there are no trends available at this time. However, with regular repeat surveys, this indicator will be able to show whether perceptions of water quality in the District are improving or not.

Groundwater quality in the Hastings District (particularly the Heretaunga Plains aquifer) is very high. Hawke's Bay Regional Council monitoring has not detected any elevated pollutants or naturally occurring chemicals of concern in this resource to-date.

Surface water quality in the District however, continues to be variable, particularly during low flow periods in summer, and after heavy rainfall and flood events.

The reason some rivers or catchments have better water and habitat quality than others which are varied and complex and the subject of detailed monitoring and research programmes carried out by Hawke's Bay Regional Council[30].

Stormwater discharge consents were granted in 2010 and monitoring of the discharge from the HDC network has been on-going since 2010 and a significant amount of data has been gathered. This information indicates there are contaminants associated with stormwater discharge.

Responses

For the Community

- If you live in the rural areas, ensure your wastewater system is regularly maintained to avoid contaminants leaching into nearby waterways
- Land management practices have a significant impact on water quality – consider restricting stock access to waterways, develop wetland areas as nutrient soaks, and plant appropriate vegetation along the riparian margins of rivers, lakes and streams (preferably indigenous species, sourced locally)
- Take care to prevent discharges of contaminants to water, particularly over unconfined aquifer areas. Avoid putting chemicals, detergents or any other rubbish in stormwater drains, use low phosphate detergents in your laundry, and wash your car on the lawn rather than sending pollutants to the nearest river
- Water is no longer the abundant luxury we can afford to waste. Reduce wastage of water as a habit, not just during drought periods. Only use what you need when you need to
- Avoid dumping rubbish in and around rivers, streams and other waterways.

For Council

- Implement programmes to address the source of industrial pollutants entering the stormwater network
- Continue to work collaboratively with the Hawke's Bay Regional Council and other stakeholders to improve stormwater quality and enhancement of downstream waterways where practical
- Continue to monitor Councils own discharges to ensure they do not contribute to the pollution of the District's water resources
- Continue to work with the District's smaller communities where there are wastewater reticulation issues
- Continue to initiate and contribute to planting initiatives to provide shade over lowland streams and to enhance riparian (riverside) vegetation
- Continue to survey the community's perception of water quality in the District.

[30] For more detailed analysis of surface water quality in the Hastings District, refer to the Hawke's Bay Regional Council's state of the environment technical reports.

Amenity, Character and Heritage Management

Amenity, Character and Heritage Management

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Residential Amenity				
A1	Non-residential activities in residential zones			Top 3 non-residential activities in residential zones were for 'educational facilities', 'home occupations' and 'healthcare facilities'.
A2	Complaints about non-residential activities in residential zones			Complaints were trending downwards during the first half of the reporting period, before spiking sharply in 2013 and 2014. This corresponds with a sharp increase in complaints about signage.
A3	Background noise levels			Background noise levels between 35-45dBA (L95).
A4	Noise Complaints			Increasing number of noise complaints, but steady as proportion of total complaints (90% of all complaints). Future reporting would benefit from collecting specific data on the source of noise complaints, so as to identify how many complaints are about separate incidents, as opposed to repeat complaints about the same activity.
A5	Residents perception of noise pollution			Perception of noise pollution has gotten worse, with 40% surveyed being concerned or very concerned about noise pollution, compared with 32% during the 2004-2008 reporting period.
A6	Residents' perception of the District as a safe place to live			High and steadily improving, with 89% surveyed considering it a safe place to live.
A7	Provision of open space areas			8.39ha/1,000 residents (excluding Te Mata Peak), up from 8.2ha/1,000 residents at the date of the last State of the Environment Report. When including Te Mata Peak, which was gifted to the people of Hawke's Bay in 1927, this jumps to 9.67ha/1,000 residents at the end of the reporting period. However, there is still a shortfall of reserve land within the Hastings urban area with only 130.33ha, equating to 4.39ha/1,000 residents.
A8	Residents satisfaction with parks and reserves			Remained high at 94% surveyed being satisfied, compared with 89% in 2011
A9	Residents' satisfaction with accessibility of recreational facilities			Remained high at 91% surveyed being satisfied compared with 87% in 2008.

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
A10	Residents' rating of quality of life			High with 86%surveyed perceiving high quality of life.
A11	Residents' rating of sense of pride in the way their city looks and feels	-		Relatively high, with only 16% reporting that they do not feel proud of the way Hastings looks and feels
Coastal Amenity				
CA1	Subdivision and development in Coastal Residential Zone			Relatively limited, and mostly within Waimarama and Te Awanga settlements.
CA2	Demand for new coastal residential areas			There has not been a great deal of demand for new coastal residential areas. With the exception of the District Plan review, there were no applications to rezone land for coastal residential purposes. Rezoning requests as part of the District Plan review are still being considered. This may result in some new coastal residential areas by the time the next State of the Environment Report is produced.
CA3	Coastal water quality for recreation			Marine water quality very good. Freshwater/estuarine sites poor. Some improvement in bacterial levels at Puhokio Stream.
CA4	Coastal water quality for recreational shellfish gathering			During the current reporting period, Ministry for the Environment guidelines were exceeded more often than during the previous reporting period.
Natural Heritage/Landscape Character				
NC1	Subdivision and development in Significant Landscape Character Areas (SLCAs) or Outstanding Natural Features (ONFs)			In the Operative District Plan, there were 9 ONFs, 10 SLCAs comprising 3.4% of total land area. Decreasing number of subdivision and land use consent applications affecting these areas
NC2	Building activity within Significant Landscape Character Areas (SLCAs) or Outstanding Natural Feature (ONF) Areas			Almost nil activity in ONFs. Building activity concentrated on SLCA4 (Heretaunga Hills), but also SLCA2, SLCA3 and SLCA5.
NC3	Resource consents relating to areas of significant indigenous vegetation and significant habitats of indigenous fauna	-		There were 67 identified sites, comprising 1.64% of total land area. Between 2011 and 2014, there were 7 land use consents and 6 subdivision consents relating to land located within a 'Recommended Area for Protection'

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Cultural & Historic Heritage				
H1	Residents' perception of public art and cultural opportunities			High with 86% surveyed being satisfied
H2	Council spending on heritage and culture	-		Council spending on Arts & Heritage, Murals, Façade Enhancement, Council Heritage Buildings, urban parks, and the streetscape has generally increased over the reporting period. There has been a corresponding improvement in residents' sense of pride in the way Hastings City looks and feels. As this information is reported on in the State of the Environment Report for the first time this year, it has been categorised as 'baseline' information.
H3	Consents to modify/destroy Heritage Items and Waahi Tapu			The Operative District Plan lists 148 outstanding trees, 18 significant trees, 85 heritage items, 3 heritage areas, 4 heritage buildings (in Te Mata Special Character Area), and 57 waahi tapu sites. There were just 13 resource consents relating to registered heritage or waahi tapu items between 2009-2014. The majority of these were for alterations, with only two consents being for demolition.
H4	Archaeological sites and Authorities to modify/destroy Archaeological Sites			Over the reporting period, there were 12 authorities granted

Section 31 of the RMA gives the District Council the function of managing and controlling the effects of the use, development, or protection of land, and of particular relevance to the state of the amenity, character and heritage of the District.

Amenity values are defined in Section 2 of the RMA as *"those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes"*.

Residential Amenity

Hastings is the primary urban area of the District, with several smaller urban areas including Havelock North, Flaxmere, Clive and Whakatu, as well as a number of rural service, coastal and marae settlements.

As the commercial and business centre, Hastings provides the principal focal point of business activity, employment, retailing and entertainment.

The majority of the population live in the urban and plains areas.

The 2005 New Zealand Urban Design Protocol describes urban design as being:

"…concerned with the design of the buildings, places, spaces and networks that make up our towns and cities, and the ways people use them. It ranges in scale from a metropolitan region, city or town down to a street, public space or even a single building. Urban design is concerned not just with appearances and built form but with the environmental, economic, social and cultural consequences of design. It is an approach that draws together many different sectors and professions, and it includes both the process of decision-making as well as the outcomes of design."

Urban design is about connecting people and their places – making a successful environment that works now and into the future. Hastings District Council has adopted the NZ Urban Design Protocol, committing to creating sustainable and successful urban places for the community.

The community demands a high quality urban environment with attractive places to live, work and undertake business and recreation, well connected and easy to get around. The Hastings community has a vision to enhance its valued lifestyle, culture and heritage. These are often subjective values.

New development can alter the amenity, character and heritage of its surroundings. The District Plan deals with issues such as compatibility, density and design to ensure amenity values are maintained or enhanced over time.

Indicators

The table below shows the indicators that are used to monitor the state of residential amenity in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Residential Development – Arataki, Havelock North
Source: Hastings District Council

INDICATORS FOR RESIDENTIAL AMENITY

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES
			Relevant Outcome Statements: • Safe and secure communities. • Development in Hawke's Bay is sensitive to the need to protect and promote environmental wellbeing. • Supportive caring and inclusive communities. • Safe and accessible recreational facilities. • Enhanced provision of a variety of safe physical recreational opportunities.	Operative District Plan Section 2.4.6 (Urban Development & Strategic Urban Directions): • A well-functioning residential market that is able to cater for and respond to demand for residential housing without generating adverse environmental effects. • Increased residential development on Maori land and on land close to marae. Section 8.6 (Residential Zones): • Interesting, attractive and distinctive residential areas with strong sense of place and community identity. • Mixed-use residential neighbourhoods providing a variety of compatible support services, facilities and businesses. • New residential subdivisions which incorporate sustainable urban form elements including generous provision for passive transportation (cycling and walking). • Residential development which does not create adverse impacts in terms of overshadowing, excessive building scale, or invasion of neighbourhood privacy. • Residential environments free from excessive noise, odour, dust, glare and vibration nuisance. Proposed Hastings District Plan (2013): Section 2.4 (Urban Strategy): • A well-functioning residential market that is able to cater for and respond to demand for residential housing without generating adverse environmental effects. • Increased residential development on Maori land and on land close to marae. • Various Residential Zone Section Outcomes
A1	Non-Residential Activities in Residential Zones	Pressure	Non-residential activities can positively or adversely affect the amenity values of surrounding residential areas depending on the scale and nature of the activities.	
A2	Complaints about Non Residential Activities in Residential Zones	Pressure	Understanding the type and extent of non-residential activities occurring in residential areas and monitoring complaints arising from such activities, enables Council to monitor the efficiency of the District Plan provisions and to assess the impact of, and tolerance for, such activities over time.	
A3	Background Noise Levels	State	Monitoring background noise levels within residential environments and changes to those levels resulting from changes in land uses, may indicate changes in amenity values over time.	
A4	Noise Complaints	Pressure	Monitoring noise complaints in residential areas indicates the impact of changing housing styles and densities or impacts of changing land uses or tolerance of noise by residents.	
A5	Residents' Perception of Noise Pollution	State	Measuring resident's perception of noise pollution in their environment provides a relative indicator of amenity values. People have limited noise tolerance levels e.g. levels at which noise causes health impacts such as sleep deprivation.	
A6	Residents' Perception of the District as a Safe Place to Live	State	Community perception of how safe they feel where they live provides a good indicator of amenity. Safety and security are important components of people's appreciation of amenity.	
A7	Provision of Open Space Areas	State	The provision of quality well located open space areas is a key measure of amenity and urban design quality.	

A8	Residents' Satisfaction with Parks and Reserves	State	Residents' satisfaction with parks and reserves and accessibility to these facilities provides a good indication of provision for the recreational needs of the community. Recreation is a significant aspect of people's appreciation of the amenity of the area they live in.
A9	Residents' Satisfaction with Accessibility of Recreational Facilities	State	
A10	Residents' Sense of Pride in the way the City Looks and Feels	State	Sense of pride in the way the City looks and feels is another good indicator of amenity.
A11	Residents' Rating of Quality of Life	State	Rating the quality of life provides a good overall indicator of amenity, reflecting people's overall appreciation of their environment and lifestyle opportunities.

Monitoring Information

Indicator A1: Non-Residential Activities in Residential Zones

The amenity of residential areas may be affected by the types of land use activities undertaken. Residential activities use land and buildings for the purpose of permanent living accommodation. This includes dwellings and garages. Any activity outside of this is considered to be non-residential. It should be noted that there is a certain expectation and level of acceptance for limited non-residential activities in residential areas, such as the corner shop, small home occupations, local doctors etc.

Some non-residential activities in the residential zones are permitted in the District Plan, and data on activities that do not trigger the need for resource consent is difficult to obtain without comprehensive survey. However, data on non-residential activities for which resource consents were required, can give some general information in terms of demand for such activities in residential areas. An increase in demand could suggest some pressure on residential amenity. Such information would also enable identification of any trends and possibly establish some correlation with people's appreciation of their residential neighbourhood.

The following graph show the broad categories of the types of non-residential activities in Residential Zones that were granted resource consent during the period 2009-2014.

Between 2009-2014, half of the resource consents granted for non-residential activities in Residential Zones were for extensions or variations to existing activities.

The most common non-residential activities that required resource consent are as follows:

1) Education Facilities (18 resource consents granted)

2) Recreation Facilities (10 resource consents granted)

3) Professional Offices and Temporary Events (9 each).

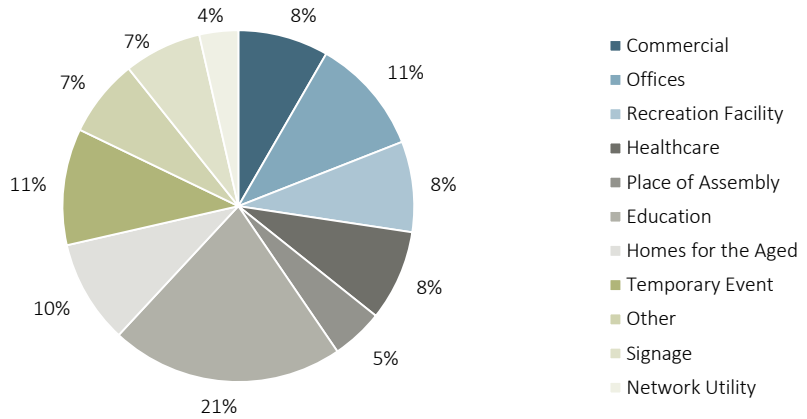
The majority of resource consents for education facilities were for variations or extensions to day cares and schools, with only 2 education facility resource consents being for new activities.

All resource consents required for recreational activities in the residential zones were for Council projects on existing reserves.

The graphs below show that over the period of 2009-2014, there was very little demand for commercial activities, healthcare facilities, and other non-residential activities that go beyond the limits set in the District Plan. This is consistent with the information present in the 2004-2008 State of the Environment Report.

The following graph shows the types non-residential activities granted resource consents Zones during the five year period of 2009-2014.

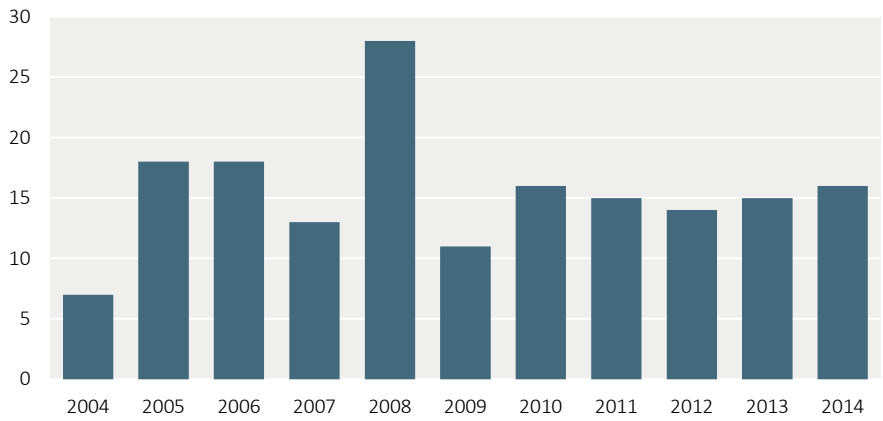
Figure 35: Resource Consents Granted for Non-Residential Activities in Residential Zone (2009-2014)



This shows that education facilities, temporary events, and offices were the most common non-residential activities granted resource consent in residential zones.

While the total number has varied over the 10 year period, reaching a peak of 28 consents in 2008, the number of consents granted each year has remained relatively stable over the past 5 years.

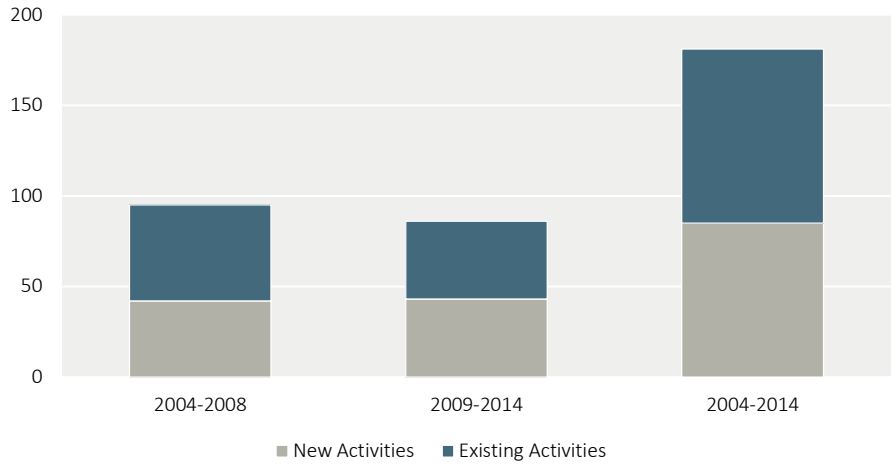
Figure 36: Number of Non-Residential Activities in the General Residential Zone



Source: Hastings District Council

The graph below shows that approximately 50% of resource consents were for alterations to existing activities and therefore do not relate to the establishment of new non-residential activities. Each year, there were resource consents granted for new non-residential activities in the General Residential Zone. This means the total number of consented non-residential activities is on the increase. However, this may not threaten residential amenity. This is because non-residential activities are able to co-exist with residential activities without generating adverse effects when the scale and character is appropriate, as supported by District Plan rules. Therefore, the number of complaints about non-residential activities will provide a better indication of the threat to amenity non-residential activities pose in the residential zone.

Figure 37: Resource consents for new activities compared with alterations to existing activities



Source: Hastings District Council

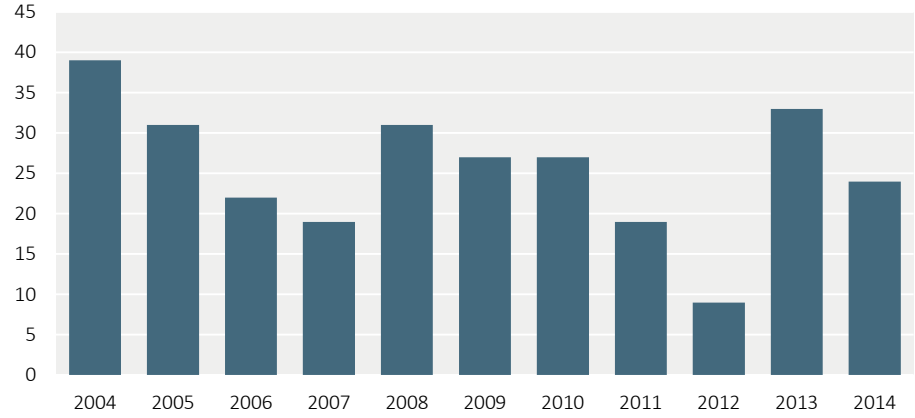
A2: Complaints about Non Residential Activities

Changes in the volume of complaints about non-residential activities undertaken in residential zones can provide useful information about residents' concerns in relation to their appreciation of residential amenity.

The following graphs show the total number of complaints received about non-residential activities in Residential Zones. Between 2004 and 2007, complaints about non-residential activities dropped quite dramatically. The 2004-2008 State of the Environment Report suggested that this drop could have been the result of improved complaints monitoring reducing the likelihood of repeat complaints.

Between 2008 and 2012, there was a significant drop in the number of complaints recorded. However, in the final two reporting years the number of complaints spiked. Over this same period, complaints about signage accounted for approximately 50% of the total number of complaints. This was significantly higher than in previous years and therefore accounts for a significant proportion of the relatively high number of complaints and reflects a tighter approach to signage compliance.

Figure 38: Non-Residential Activity Complaints (2004-2014)



Source: Hastings District Council

The graph below shows the breakdown of the types of non-residential activities that generated complaints during 2009-2014. The activities which generated the most complaints during 2009-2014 are as follows:

- Home Occupation/Commercial (86 complaints in total)
- Signage (21 complaints in total).

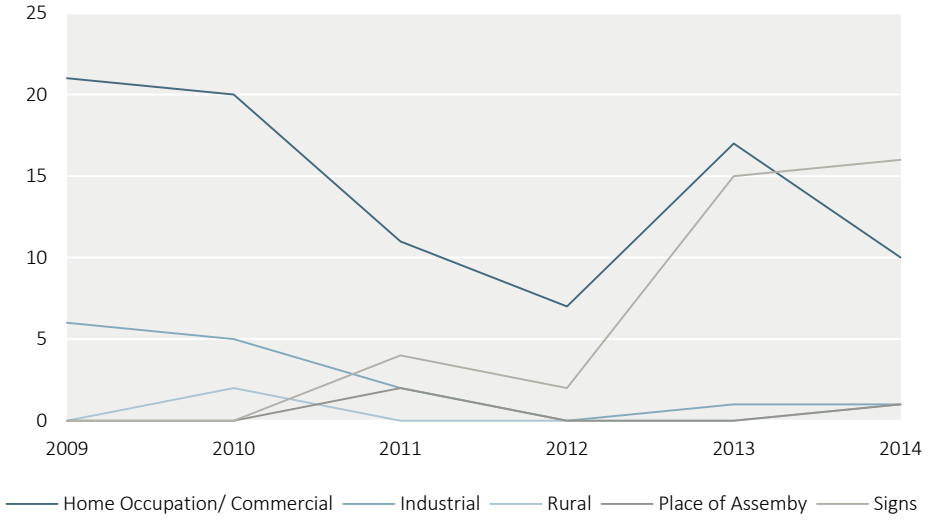
The frequency of signage related complaints suggests that signs are considered a threat to expected levels of residential amenity.

Very few complaints were received about other non-residential activities. This is likely because they occur so infrequently in residential areas.

The number of complaints received about home occupations and other commercial activities (commercial activities include healthcare facilities, education facilities, and visitor accommodation) has varied quite significantly during the reporting period, though was generally trending downward until 2013, where it spiked before decreasing again in 2014.

It is important to note that the low number of complaints received means that the data is highly sensitive to circumstance. For example, if one activity generates several complaints it can significantly influence on the data, thus making it difficult to establish any definite trend.

Figure 39: Types of Complaints Received about Non-Residential Activities in the Residential Zone (2009-2014)



Source: Hastings District Council

As mentioned above, the number of complaints about signage increased dramatically in 2013, with a similar number of complaints received again in 2014. The sudden increase in complaints about signs is one reason for the relatively high number of total complaints in these two years. It is important to note that only complaints about signs located on private property within residential zones have been graphed. However, data collection and processing revealed that a significant number of signage complaints related to signs located in the road. Therefore, it is possible that signage triggers significantly more complaints than what the graph above suggests.

Both the local body elections and the referendum on fluoridation were in 2013, with the general election the following year. This meant there was an increase in signage

around the District and is one possible reason for the increase in complaints about signage.

The increase in complaints could also be a result of Council adopting a more stringent approach to dealing with non-compliant signage and a more accurate system of recording complaint details.

Indicator A3: Background Noise Levels

Changes in background noise levels in residential areas are a key indicator of amenity values.

People are sensitive to noise levels and excessive noise can affect people's health and wellbeing. The background sound level has an impact on the perceived intrusiveness of a given noise source. A higher background sound level may 'mask' (i.e. conceal) some unwanted noises. Someone playing a loud stereo in a quiet residential area (a low background noise area) may draw complaint whereas the same activity near a busy road (with a higher background noise) may not cause complaint.

Council surveyed background sound levels at various sites throughout the District in 2010[31]. For measurements of the background sound, it is necessary to exclude local intrusive sounds or sounds of an intermittent nature which are not normally present at a site.

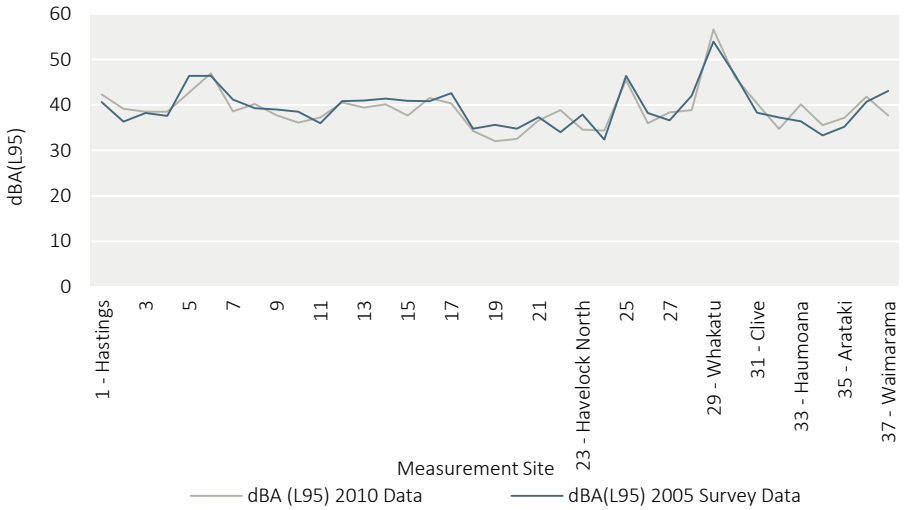
The New Zealand Standard NZS 6802:1991 Assessment of Environmental Sound prescribes that the L95 be used as the descriptor applied to the measurement data to determine the level of background sound[32]. It is the level exceeded 95% of the time within the measurement interval. This is consistent with District Plan referencing, which applies NZS 6802:1991. It should be noted that this standard has been updated, and is the one that is referred to in the Proposed District Plan. However, as the Operative District Plan references the earlier standard.

The following graph shows background noise levels at 37 different monitoring sites in the Hastings District. Sites 1-17 are located in Hastings City, Sites 18-22 are in Flaxmere, and Sites 23-28 are in Havelock North.

The background noise environment tends to average between 35 and 45 dBA (L95). The higher readings correlate with those sites located in mixed or commercial and industrial locations (Sites 5 and 6 are in central Hastings in a largely commercial/light industrial environment, Site 25 is in central Havelock North in a mixed use commercial environment, and Sites 29 and 30 are in close proximity to the Whakatu industrial area).

The 2008 State of the Environment Report included the 2005 survey data which provide a good snapshot of the background noise environment at that time. By comparison, it does not appear that there has been a great deal of change in background noise between the two surveys.

Figure 40: Background Noise Levels (L95) in Hastings District (2005-2010)



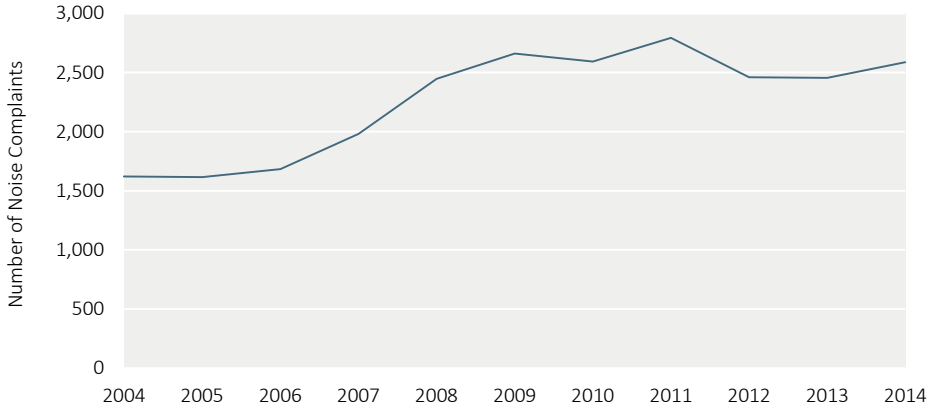
Source: Hastings District Council

[31] *'2010 Background Sound Level Survey', 2010*, Hastings District Council.

[32] More recently new New Zealand Standards NZS 6801:1999 and NZS 6802:1999 have been issued. These adopt the European standard for background sound levels namely the L90 descriptor. In order to ensure the District's monitoring program remains valid into the future both the L90 and L95 parameters are being recorded.

The following graph shows the total number of noise complaints received by Council each year between 2004 and 2014.

Figure 41: Noise Complaints Received by Hastings District Council 2004-2014



Noise complaints have increased by 59% in the 10-year period to 2014 – rising from 1,622 in 2004 to 2,586 in 2014. However, the majority of this increase occurred between years 2004 and 2009.

Noise complaints increased again in 2011, before decreasing in 2012 and stabilising for the remainder of the reporting period. While there is an element of variability in more recent years, the general trend over the last 10 years is that noise complaints have increased, but has remained steady over the last 5 years.

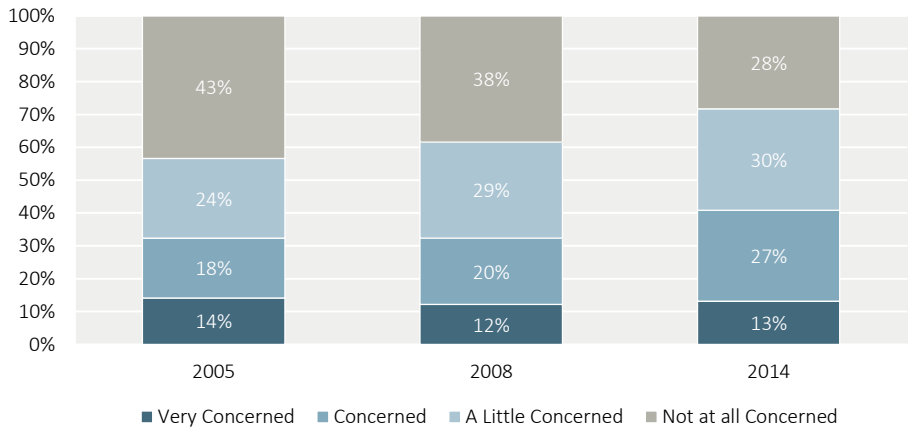
Indicator A5: Perception of Noise Pollution

Measuring resident's perception of noise pollution provides a further relative indicator of residential amenity values. Surveying people's level of concern regarding noise pollution provides a good overall perception of noise nuisance.

The following graph shows the results of Council's 'Communitrak Survey' and the Public Voice survey which replaced Communitrak in 2014. Many of the survey questions in the Public Voice survey replicated the Communitrak survey in order to produce results that could be compared with previous years.

This indicator shows that concern about noise pollution is increasing. It is interesting to note that the number of noise complaints has stabilised, yet concern about noise pollution has continued to increase. In both 2005 and 2008, 32% of people surveyed reported being concerned or very concerned about noise pollution. In 2014, this increased to 40%. An additional 30% reported being a little concerned. Only 28% of the 2014 survey respondents said they were not concerned at all about noise pollution. This is compared with 43% and 38% in 2005 and 2008 respectively.

Figure 42: Residents' Concern about Noise Pollution (2008-2014)



Source: Hastings District Council Communitrak Survey (note: numbers do not add up to 100% as those who did not answer the question were not graphed).

Analysis of the Communitrak Survey results carried out by National Research Bureau (NRB) Ltd notes that there are no notable differences between wards or socio-economic groups in terms of those residents who are very concerned about noise pollution. However residents aged over 60 years of age, who live in one or two person households or who have resided in the District for more than 10 years were slightly more likely to feel very concerned. Although the Public Voice survey was not subject to the same analysis, the questions from Communitrak were directly transferred to the Public Voice survey. Therefore, the analysis of Communitrak results carried out by NRB Ltd is considered relevant.

Therefore, the age group of survey respondents may have contributed to the level of reported concern about noise pollution. In the 2014 survey, 58% of respondents stated they were aged 60 or over. This is compared with 35% in 2008 and 33% in 2005. Therefore, a possible reason for the increase in concern about noise pollution in 2014 is that the over 60 age group accounted for a much larger proportion of survey respondents. Data about the length of time people had lived in the District, or the number of people in the survey respondents' households was not collected. Therefore, it is unclear whether these factors had any influence on the data.

In conjunction with the previous two indicators relating to background noise levels and noise complaints data, residents' perception of noise pollution over time will be used to provide an indicator of changes in residential amenity.

Indicator A6: Perception of the District as a Safe Place to Live

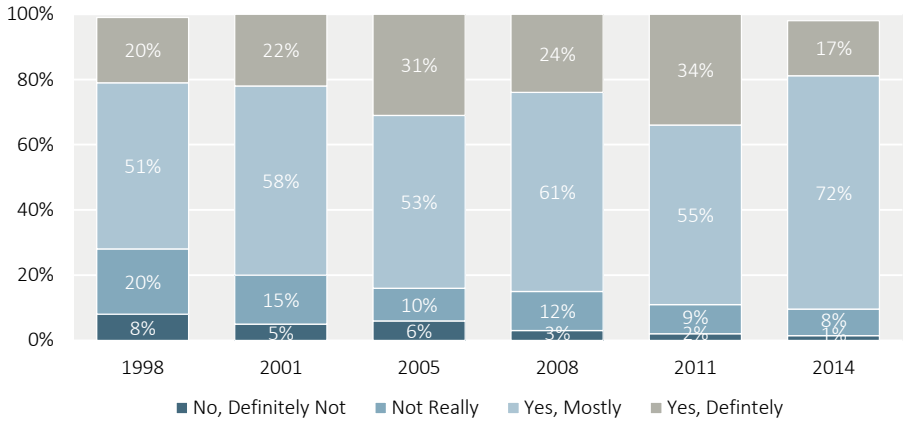
People's perception of general amenity values is usefully indicated by their awareness of safety and the extent to which social crimes are perceived as a problem.

When asked, the majority of respondents to the Council's Communitrak Survey (1998-2005) and Public Voice Survey (2014) believed the Hastings District is a safe place to live, and the following graph indicates there has been a significant improvement in perception since 1998.

In 1998, 71% of respondents agreed 'Yes, Definitely' or 'Yes, Mostly' with the statement that Hastings District was a safe place to live. While the number of 'Yes, definitely' responses dropped over the entire reporting period, the perception of the District as a safe place to live improved generally. This people who answered either 'Yes, Definitely' or 'Yes, Mostly' increased steadily to 85% in 2008 and 89% in 2011 and 2014.

The number of people who did not believe the District is a safe place to live, answering 'No, definitely not' and 'Not really' dropped significantly, from 28% in 1998, to just 9% in 2014.

Figure 43: Residents' Perception of Hastings District as a Safe Place to Live (1998-2014)



Source: Hastings District Council Communitrak Survey (note: numbers do not add up to 100% as those who did not answer the question were not graphed).

Possible reasons for improving perceptions of the District as a safe place include the introduction of the City Assist programme. More detail about the City Assist programme will follow in case study at the end of this chapter.

However, according to NRB Ltd's analysis of the survey results in 2008, Hastings District as a whole was below its peer group (similar Local Authorities) and the national average in terms of the percent saying 'Yes, Definitely' (24% Hastings District, 32% Peer Group, 30% National Average).

This comparative data is no longer available, so it is not possible to track the District's performance against its peer group, and the national average.

As a whole, the number of people who reported the District as a safe place to live has increased each year the surveys were undertaken.

Indicator A7: Provision of Open Space Areas

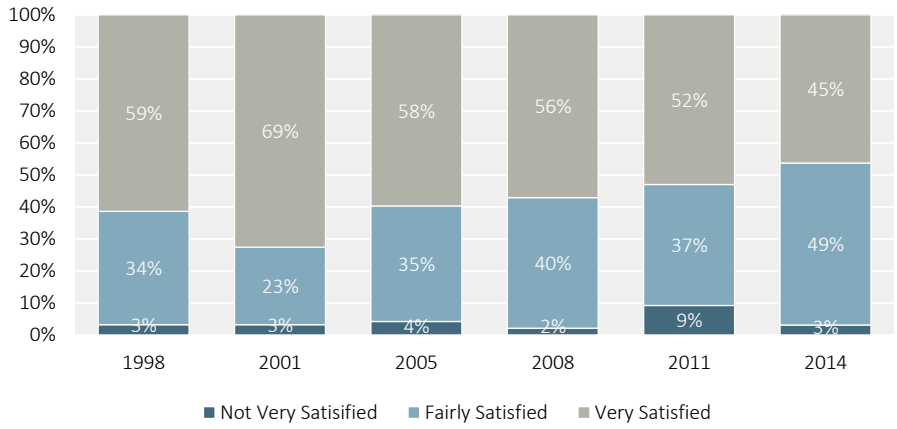
The total reserve provision for the Hastings District is 617.12ha (land that is owned by HDC) or 8.39ha/1,000 population (compared with 582.4 ha or 8.2ha/1,000 population at the time of the last state of the environment report). However, there is justification to include Te Mata Peak to the reserve provision, as this land was gifted to the people of Hawke's Bay in 1927 by the Chambers family. It is protected in perpetuity as a recreation reserve and available for recreation purposes for all citizens of Hawke's Bay under the terms of a charitable trust. The inclusion of Te Mata brings the total reserve provision to 711.79ha, which equates to 9.67ha/1000 residents. The Hastings LTCCP had a target level of service of 9.0ha/1000 population by 2018/19. The Long Term Plan 2015-2025 may alter this, however it falls outside of the reporting period.

The Reserves Strategy identified poor reserve provision within the boundaries of the Hastings City urban area, with only 3.26 ha/1,000 population. Total reserve provision for Havelock North and Flaxmere were considered appropriate for the current population.

Indicator A8: Residents' Satisfaction with Parks and Reserves

It is not just the quantity, but the quality of open space and recreational facilities that is a key factor determining the pleasantness and desirability of a place to live, work and do business.

Figure 44: Residents' Satisfaction with Parks and Reserves (1998-2014)



Source: Communitrak Survey and Public Voice Survey Hastings District Council

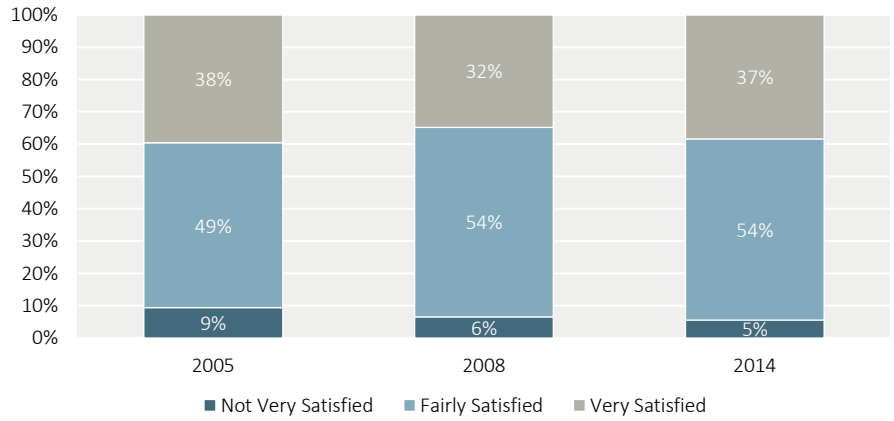
This indicator shows a very strong level of satisfaction over the 16 years since 1998. In 2014 94% of the 356 residents surveyed were very/fairly satisfied with their parks and reserves facilities. This is relatively stable compared with 96% and 93% in 2008 and 2005 respectively.

According to NRB Ltd's analysis of the survey results in 2008, Hastings District sat well within its peer group (similar Local Authorities) and the national average in terms of the percent saying 'Very Satisfied' with their parks and reserves (56% Hastings District, 53% Peer Group, 57% National Average). However, comparison data was not available for the 2014 year as the nationwide 'Communitrak' survey was not repeated.

Indicator A9: Residents' Satisfaction with Accessibility of Recreational Facilities

Accessibility of recreational facilities also factors into people's appreciation of amenity. This following graph shows a high level of satisfaction with accessibility of recreational facilities in Hastings District.

Figure 45: Residents' Satisfaction with Accessibility of Recreation Facilities (2005-2014)



Source: Communitrak Survey and Public Voice Survey Hastings District Council

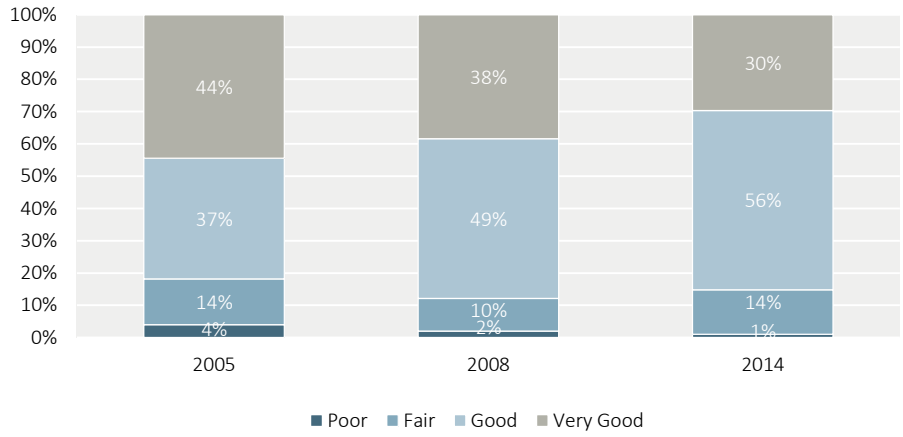
This indicator shows that community satisfaction with the accessibility of recreational facilities within the District remains relatively high (when asked, 91% of the 356 respondents were 'fairly' or 'very' satisfied with accessibility in 2014, compared with 86% in 2006).

Indicator A10: Residents' Rating of Quality of Life

Perception of quality of life in the District indirectly indicates a general appreciation of amenity in its widest sense. A good rating of quality of life suggests a correspondingly high level of appreciation of amenity.

The following graph shows that the large majority of those surveyed during the Council's tri-annual Communitrak Survey perceive their quality of life to be high. The proportion of survey respondents' who rated quality of life in Hastings District as being 'Good' or 'Very Good' has remained steady between 2008 and 2014, being 87% and 86% respectively. The number of survey respondents' who identified with the most positive and most negative responses (poor and very good) both decreased. However, the general trend is one of improvement.

Figure 46: Rating the Quality of Life in Hastings District Comparison 2005-2014

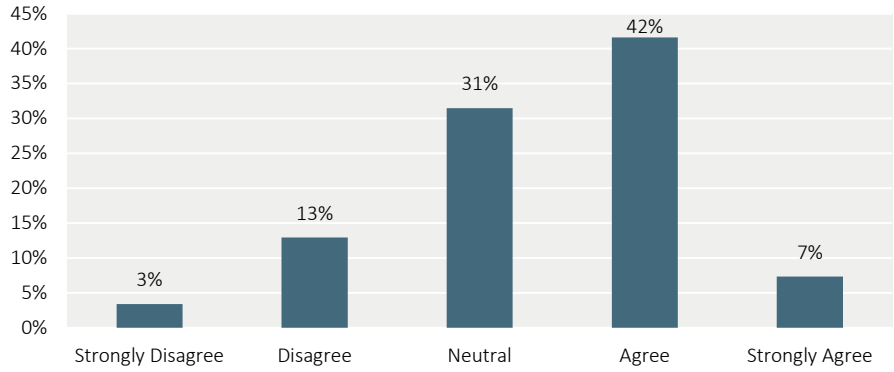


Source: Hastings District Council Communitrak Survey and Public Voice Survey

In 2008, Hastings District sat well within its peer group (similar Local Authorities) and the national average with an 87% rating for 'good' or 'very good', compared with 85% (peer group) and 86% (national average). However, comparison date was not available for the 2014 year.

Indicator A11: Residents' Sense of Pride in the way Hastings City looks and feels

Figure 47: Residents' sense of pride in the way the city looks and feels (2014)



Source: Hastings District Council

Sense of pride in the way the city looks and feels is a broad measure of indicating satisfied residents' are with urban amenity. This indicator has been included in the State of the Environment Report for the first time, so there is no comparison data available.

It is difficult at this stage to draw any significant conclusions from the indicators for residential amenity. Many of the above indicators (particularly those relating to non-residential activities and complaints in residential areas and noise), need additional monitoring over a longer period to give more useful information.

There were 45 resource consents to establish new non-residential activities in the residential zones of the District between 2009 and 2014. Educational facilities were the most prevalent, followed by temporary events, professional offices and healthcare facilities. With controls, these are appropriate in residential environments and do not pose a threat to residential amenity.

On average, resident surveys in 2005 2008 and 2014 indicated the community is concerned about noise pollution.

The total number of noise complaints has increased by 59% in the 10-year period to 2014. However, the majority of this increase occurred between years 2004 and 2009.

It is important to note that as this that multiple noise complaints received by the same person about the same noise source are included in total figures and may have an impact on the trend observed. Future reporting would benefit from looking more closely at the source of noise complaints, so as to avoid counting multiple complaints by the same person more than once where it is not appropriate to do so.

In the meantime, residents' perception of safety, level of open space provision, satisfaction with parks and reserves and accessibility of recreational facilities, along with quality of life ratings suggest that the perception of amenity generally is fairly high, and comparable to that of similar Local Authorities and the national average.

Responses

For Community

- Get to know, and be considerate of, your neighbours
- Make use of the many facilities within your community
- Celebrate and support the positive aspects of your community.

For Council

- Monitor the trend for increasing number of non-residential activities establishing in residential areas
- Complete a survey of Background Noise levels on a five yearly basis, with the next survey to be undertaken in later in 2015
- Review the causes of noise pollution in residential areas to identify methods to reduce the perception of noise pollution
- Identify source of noise complaints
- Continue to survey residents' perception of quality of life, and satisfaction with the facilities provided in their neighbourhood.

Coastal Amenity

Coastal settlements within the District are generally low density and sprinkled along the coastline. They provide another option for residential living, where the amenity and character are dominated by the coastal environment.

There are often competing demands between protecting a sometimes fragile coastal resource, and the community's desire for access to and the use, development and enjoyment of its resources.

These small settlements have grown on the coast as holiday places, around traditional marae settlements or as rural service centres including Whirinaki, Waimarama, Haumoana, Te Awanga, Waipatiki and Tangoio.

In recent times more permanent dwellings have established in these centres and some also offer basic commercial services.

Council's growth strategy has identified coastal areas where urban development can more readily be accommodated and by default, those areas where development should be resisted in order to protect coastal amenity and character. Much of this also relates to adequate infrastructural provision and coastal hazards.

The coast also has significant value as a place of recreation – swimming, picnicking, walking, surfing, diving and fishing. It also has significant cultural, spiritual and ecological values for mana whenua. The coast has played an important part in history for mana whenua, being a place of occupation and settlement, a source of food, of materials for whakairo, raranga and the making of tools and weapons. The coast contains numerous urupa and sites of significance for mana whenua.

Indicators

The table below shows the indicators that are used to monitor coastal amenity and character in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Ocean Beach
Source: Hastings District Council

INDICATORS FOR COASTAL AMENITY

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: An environment that is appreciated, protected and sustained for future generations. The natural qualities of Hawke's Bay's lakes, streams, waterways and coastlines are protected and enhanced.	Operative District Plan Section 2.7.6 (Coastal Environment Strategy): • Improved understanding of the values and matters of significance that exist within the Coastal Environment. • An integrated management approach to the use, development, and protection of the Coastal Environment is implemented. • The protection of natural, cultural, heritage, and scenic features of the coast, that reflect the significance of such features to the character of the Coastal Environment, and their contribution to the community's social, cultural and natural heritage. • The adoption of long term sustainable development strategies for each of the coastal communities. Proposed District Plan (2013) Section 2.7 (Coastal Environment Strategy): • Improved understanding of the values and matters of significance that exist within the Coastal Environment. • An integrated management approach to the use, development, and protection of the Coastal Environment is implemented. • The protection of natural, cultural, heritage, and scenic features of the coast, that reflect the significance of such features to the character of the Coastal Environment, and their contribution to the community's social, cultural and natural heritage. • The adoption of long term sustainable development strategies for each of the coastal communities.
CA1	Subdivision and Development in the Coastal Residential Zone	Pressure	These indicators will enable Council to monitor trends for urban development particularly in coastal residential settlements and adjacent rural zones. This will assist in understanding if and where there are any pressures, in pursuing long term sustainable development strategies for the District's coastal communities, and ensuring the coastal environment is managed and protected.	
CA2	Demand for New Coastal Residential Areas	Pressure		
CA3	Coastal Water Quality for Recreation	State	These indicators provide an improved understanding of the natural qualities of the District's coastal environment and where there may be issues with its health and management in terms of suitability for recreation and as a food source. This indicates how well the coastal environment is being managed, protected and sustained for future generations.	
CA4	Coastal Water Quality for Recreational Shellfish Gathering	State		

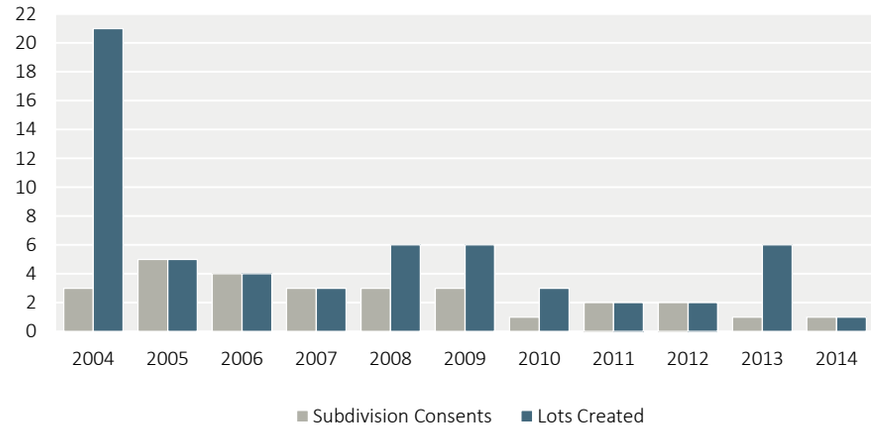
Monitoring information

Indicator CA1: Subdivision & Development in the Coastal Environment

Council, through the District Plan, balances the need to provide for a diverse range of housing demands whilst striving to protect and sustain the amenity and character of coastal areas for future generations. Residential development in the coastal environment is a good indicator of pressure, as it relates directly to people's access to and appreciation of the coastal environment, and has the most influence on coastal character.

The following graph shows the number of subdivision applications granted in the Coastal Residential Zone, and the number of additional lots created, in the ten year period from 2004 to 2014.

Figure 48: Number of Subdivisions Granted in the Coastal Residential Zone (2004-2014)



Source: Hastings District Council

Few subdivisions have taken place in the Coastal Residential Zone – with an average of only 2-3 subdivisions per year over this period. It is worth noting that the total number of subdivision consents granted in the Coastal Residential Zone has dropped over the 10 year reporting period.

The higher number of lots in 2004 is largely attributable to two subdivisions in Waimarama creating an additional 7 lots and 13 lots respectively. Another spike occurred in the year 2013, as a result of a six lot subdivision in Te Awanga.

The additional lots can be split by settlement as follows:

	Number of Extra Lots Created (2009-2014)	Number of Extra Lots Created 2004-2008	Total Number of Extra Lots Created
Waipatiki	2	1	3
Haumoana	4	7	11
Waimarama	10	28	38
Whirinaki	0	1	1
Te Awanga	10	3	13

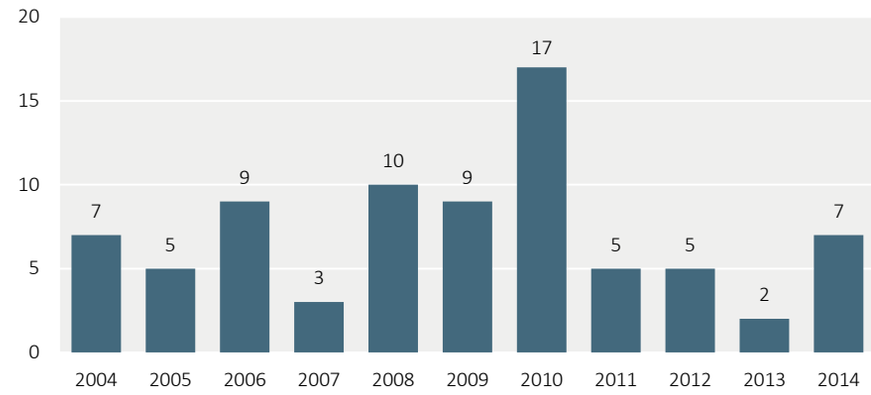
Over the reporting period, Haumoana, Te Awanga, and Waimarama have grown the most over recent years (largely as a result of the three substantial subdivisions identified above). Whirinaki and Waipatiki have grown considerably less.

Most subdivisions in the Coastal Residential Zone over this period were 1 or 2 lot subdivisions, most likely as a result of infill subdivision. In this sense, pressure to develop the established coastal settlements appears low, but this may merely reflect the lack of available land within the Coastal Residential Zone.

The number of building consents for new dwellings in the various coastal areas can provide a further picture of development over time.

The following graph shows that residential building activity has fluctuated over the ten year period to 2014, with a spike in 2010, but confirms that development in the established coastal settlements of the District has been relatively limited, with no obvious trend of increase or decrease.

Figure 49: Building Consents for New Dwellings in the Coastal Residential Zone



Source: Hastings District Council

Building consents for new dwellings over all the Coastal Residential zoned areas in the 5-year period from 2004 to 2008 comprised just 1.8% of all new dwellings for the whole District over that period (34 of the total 1,842 building consents for new dwellings). A similar trend is observed over the 2009-2014 period. Given the Coastal Residential Zone represents 5.4% of the District's total residentially-zoned land area (117ha of 2150ha), this appears to be below the average.

Currently, data is not readily available to determine exactly what is occurring in the coastal environment outside of the formal Coastal Residential Zone (i.e. on rural-zoned land in the coastal margin). Anecdotally, there have been a number of subdivisions processed by Council for 'lifestyle' purposes in this area, particularly around Waimarama.

Census area units are unable to provide any assistance, as they do not reflect a defined coastal environment. For future reporting it would be useful to collect data and monitor subdivision in the Rural Zone and Plains Zone where immediately adjoining the existing Coastal Residential Zone or perhaps within half a kilometre of the coastline.

This would give a more accurate impression of coastal development and whether there is unsatisfied demand in the established coastal settlements leading to pressure to develop coastal land outside of those settlements.

Indicator CA2: Demand for New Coastal Residential Areas

There has been little demand for new coastal residential areas over the reporting period, with no rezoning applications received outside the rezoning requests received as part of the District Plan review. At the time this report was prepared, rezoning requests received as part of the District Plan review where still being considered, some of which relate to request to rezone land for coastal residential purposes. Therefore it is possible that there may be an increase in demand for new coastal residential areas by the time the next State of the Environment Report is produced.

Indicator CA3: Coastal Water Quality for Recreation

There is a strong correlation between water quality and suitability for recreation, and people's perception of the quality and amenity of the coastal environment generally. Communities expect that coastal waters are clean enough for recreational purposes.

The Ministry for the Environment has set guidelines for water quality and reporting of water quality issues – these are the National Guidelines for Contact Recreation.[33]

Hawke's Bay Regional Council has taken responsibility as the lead agency for this monitoring, and undertakes all routine monitoring and the facilitation of follow-up sampling when necessary. The Regional Council monitors water quality at various coastal sites throughout the Hastings District. Waipatiki Beach, Ocean Beach, Waimarama Beach, and Te Awanga are monitored for enterococci levels. Waipatiki Lagoon, Maraetotara Lagoon, Waipuka Stream at Ocean Beach and Puhokio Stream at Waimarama are monitored for E. Coli levels, as they are freshwater/estuarine waters[34].

The results of that monitoring (based on 5 years of weekly monitoring data with information about the catchment) feed into an overall 'Suitability for Recreation Grade' (SFRG). The SFRG grade descriptions indicate how suitable a site is for contact recreation.

[33] *'National Guidelines for Contact Recreation'*, 2003, Ministry for the Environment & Ministry of Health.

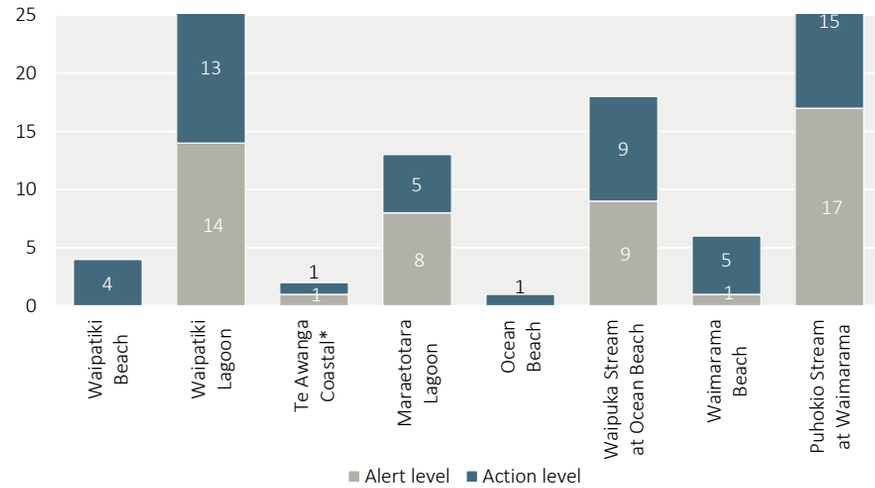
[34] For marine sites, the 'Alert' guideline value is >140 cfu enterococci/100ml, and the 'Action' guideline value is >280 cfu enterococci/100ml. For freshwater/estuarine sites, the 'Alert' guideline value is >260 cfu E.Coli/100ml, and the 'Action' guideline value is >550 cfu E.Coli/100ml.

Exceedance of the 'Alert' guideline values indicates an increased risk of illness from bathing, but is still within the acceptable range. At this point, agencies conduct follow-up sampling of the site in order to monitor whether contamination levels increase to 'Action' guideline values.

If contamination exceeds the 'Action' guideline values, then the water poses an unacceptable health risk from bathing. At this point, signs are erected at the bathing site, and the public informed that it is unsafe to swim at that site.

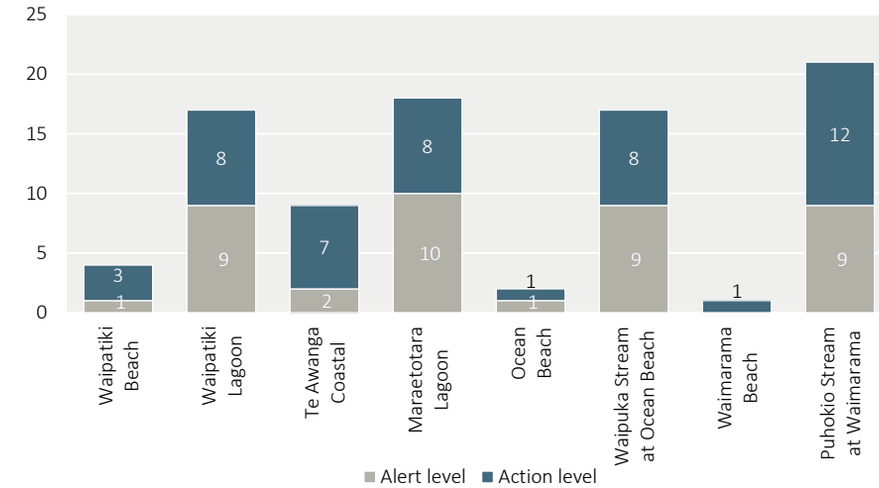
The following graphs compares the number of times the guidelines were exceeded ('Action' and 'Alert' levels) at each of the coastal monitoring sites in Hastings District in the 5 year period to 2007/08 as reported in the first State of the Environment Report, against the current reporting period to 2012/13. No data for the 2013/2014 year was available at the time this report was prepared.

Figure 50: Number of Times Recreation Water Quality Guidelines Where Exceeded (2003/04-2007/2008)



Source: Hawke's Bay Regional Council

Figure 51: Number of Times Recreation Water Quality Guidelines Where Exceeded (2008/09-2012/2013)



Source: Hawke's Bay Regional Council

Comparison of the two reporting periods indicates that the level of exceedances overall were slightly higher in the current reporting period than for the previous 5 year period. Most sites experienced similar levels of exceedance. Waipatiki Lagoon, Waimarama and Puhokio Stream experienced fewer exceedances. However, two sites appear to have experienced more exceedances (Te Awanga and Maraetotara Lagoon).

The length of restrictions imposed on swimming at various beaches in the Hastings District by the Public Health Unit within the Hawke's Bay District Health Board, following 'Action' level contamination, was not formally recorded until 2008. In that one year, there were 7 instances of restrictions imposed (4 of these were for the same period but in different locations following a significant rainfall event, and were for a period of only 2 days).

Over the current reporting period, there have only been a total of 8 instances of restrictions imposed on swimming at various beaches in the Hastings District by the Public Health Unit within the Hawke's Bay District Health Board, following 'Action' level contamination.

Table 8: Swimming Restrictions Imposed on Beaches in Hastings District (2009 – 2014)

Location	Date	Days Restriction in Place
Waipuka Stream at Ocean Beach:	31 Dec 2009	8
	7 Feb 2013	8
	1 Jan 2014	8
	23 Jan 2014	25
Puhokio Stream at Waimarama:	1 Jan 2014	15
	29 Jan 2014	29
Waipatiki Lagoon:	23 Jan 2014	11

Source: Public Health Unit

Of these, 4 of the 8 instances involved restrictions over two locations on two separate occasions – on 1 January 2014, restrictions were imposed at Waipuka Stream and Puhokio Stream, and on 23 January 2014 restrictions were imposed at Waipuka Stream and Waipatiki Lagoon), following significant rainfall events.

The length of time swimming restrictions were in place, however, varied. During the 1 January 2014 episode, restrictions were in place for 8 days at Waipuka Stream and 15 days at Puhokio Stream. For the 23 January 2014 episode, restrictions were in place for 25 days at Waipuka Stream and 11 days at Waipatiki Lagoon. It is worth noting that restrictions were also in place for a period of 29 days at Puhokio Stream only a few days later, from 29 January 2014 onwards. January/February of 2014 was a particularly bad period for swimming restrictions.

In terms of the 'Suitability for Recreation Grade' (SFRG), all but one of the coastal monitoring sites have retained the same grading as the previous reporting period.

Ocean Beach retains a 'Very Good' grading. Waimarama Beach and Waipatiki Beach continue to achieve a 'Good' grading. Te Awanga Beach has a 'Fair' grading. Overall, Hawke's Bay Regional Council advises that marine water quality is consistently very good.

Maraetotara Lagoon is 'Poor', and Waipatiki Lagoon, Waipuka Stream and Puhokio Stream all achieve a 'Very Poor' grade (Puhokio Stream has permanent signs in the area warning the public of potential health risk).

Waipuka Stream is the only site to have received a change in grade since 2005/06 – recently downgraded from 'Poor' to 'Very Poor' in 2012/13.

For those sites that are not deemed suitable for recreation (with an SFRG of 'good' or 'very good'), Hawke's Bay Regional Council has undertaken further investigations to determine why this is the case. The Regional Council has determined that more work is required to understand why Te Awanga Beach does not have a higher grading than 'Fair'.

The grading for Maraetotara Lagoon has been identified as likely reflecting the limited flushing and warmer temperatures experienced in coastal lagoons. For Waipatiki Lagoon and Waipuka Stream, faecal source work carried out by the Regional Council has highlighted waterfowl as significant sources of contamination[35]. Ironically, the presence of waterfowl contributes to coastal amenity. These estuarine areas often have considerable birdlife.

Puhokio Stream, whilst still graded as 'Very Poor' has shown some encouraging signs of improvement, continuing to exhibit a noticeable reduction in bacterial numbers, with no exceedance of the guidelines in the 2011/12 and only 1 'Action' and 1 'Alert' in the 2012/13 seasons. This further validates that ongoing land management and increased awareness of preventing stock access in streams is starting to have observable effects in water quality.

Gradual improvement at Waipatiki Lagoon appears to further confirm the benefits of the installation of the community wastewater scheme for the Waipatiki Beach settlement, resulting in less faecal bacteria entering the lagoon.

[35] *'Hawke's Bay Trends – The State of Our Environment Summary Report 2009-2013',* 2015, Hawke's Bay Regional Council

Indicator CA4: Coastal Water Quality for Recreational Shellfish Gathering

Te Awanga and Waipatiki Beach are also monitored for suitability for the collection of shellfish. Monitoring for this only began in 2005/2006. Te Awanga has a reef environment historically known to harbour mussels. Waipaitiki Beach is also popular for the collection of shellfish, and sampling is carried out near the start of the rocky reef system.

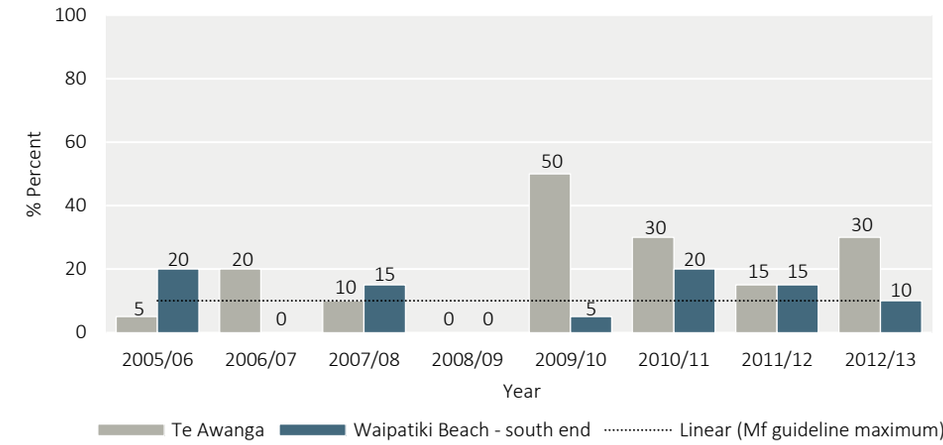
Hawke's Bay Regional Council samples these sites weekly during each season (November to March) – a total of 20 samples per season.

The Ministry for the Environment and Ministry of Health have set microbiological water quality guidelines for recreational shellfish gathering[36].

Beaches fail to comply with the guidelines when 10% of samples over the season exceed the guideline of acceptable faecal coliform levels[37]. The guidelines use faecal coliform indicator organism values to denote the potential presence of pathogenic bacteria, viruses and protozoa.

Thus, once a site has more than two(2) non-compliant samples during a season (which equates to 10% of all samples taken), it is deemed to have breached Ministry for the Environment and Ministry of Health guidelines – at which point, the public are required to be notified of the health risks associated with the collection of shellfish in that location.

Figure 52: Percentage of Samples Exceeding Guidelines for Recreational Shellfish Gathering



Source: Hawke's Bay Regional Council

[36] *'Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas Ref. ME474'*, June 2003, Ministry for the Environment (& Ministry of Health).

[37] The Ministry for the Environment and Ministry of Health guideline for acceptable faecal coliforms is <43 faecal coliforms MPN/100ml.

The results in the above graph for the two shellfish gathering waters within the Hastings District reveal that compliance for shellfish gathering is reasonably poor.

At Te Awanga compliance appears to have worsened – with samples breaching the guidelines every season since 2009/10. In 2009/10, 50% of the samples breached the guidelines, and 30% of the samples breached the guidelines in 2010/11 and 2012/13. Waipatiki Beach compliance is better, but has fluctuated over the period – achieving compliance for only 4 of the 8 years of available monitoring data.

The results in the above graph for the two shellfish gathering waters within the Hastings District reveal that compliance for shellfish gathering is reasonably poor. At Te Awanga compliance appears to have worsened – with samples breaching the guidelines every season since 2009/10. In 2009/10, 50% of the samples breached the guidelines, and 30% of the samples breached the guidelines in 2010/11 and 2012/13. Waipatiki Beach compliance is better, but has fluctuated over the period – achieving compliance for only 4 of the 8 years of available monitoring data.

Development in the established coastal settlements of the District has been relatively limited, and there have been only two requests to rezone land for coastal residential development to-date (one approved, and one withdrawn).

Currently, data is not readily available to determine exactly what is occurring in the coastal environment outside of the Coastal Residential Zone (i.e. on rural-zoned land in the coastal margin). Anecdotally, there have been a number of subdivisions processed by Council for 'lifestyle' purposes in this area, particularly around Waimarama and Ocean Beach.

Hawke's Bay's marine water quality is very good – Waipatiki Beach, Ocean Beach and Waimarama Beach are all graded 'good' or 'very good'. Freshwater/estuarine sites are not so good. Waipatiki & Maraetotara Lagoons and Waipuka & Puhokio Streams are all graded 'poor' or 'very poor'. None of the gradings for coastal monitoring sites in the Hastings District have altered significantly in the five seasons to 2012/13.

There has been a noticeable improvement in bacterial levels for Puhokio Stream since 2000, but not sufficient to improve its overall grading. Puhokio Stream is permanently signposted, warning the public of potential health risk.

Monitoring at Te Awanga and Waipatiki Beach for their suitability for the collection of shellfish only began in 2005/06. Results show compliance at Te Awanga appears to have worsened – with samples breaching the guidelines every season since 2009/10. Waipatiki Beach compliance is better, but has fluctuated over the period – achieving compliance for only 4 of the 8 years of available monitoring data.

Responses

For Community

- Care for the coastal environment by removing your rubbish and taking your waste away and disposing of it appropriately
- If you live in the coastal environment, and operate a septic tank or wastewater treatment system, ensure it is operated and maintained according to the supplier's instructions
- Connect to the community sewerage scheme in your coastal settlement, if there is one.

For Council

- Improve public awareness of what contributes to degraded stormwater quality
- For future reporting, Council will collect data on residential subdivisions in the Rural & Plains Zone adjoining the coastline or current Coastal Residential Zones. This will enable a wider understanding of pressure for coastal development in the District
- Council continues to investigate the feasibility of community sewerage schemes for Waimarama and Te Awanga/Haumoana.

Natural Heritage/Landscape Character

Natural heritage is the legacy of physical landscapes and natural environments identified as having unique or outstanding characteristics that should be protected for future generations.

The significance of the physical landscape is based on how it is perceived and what it means to people. Landscape is the relationship between natural and human landscape patterns, human experience, and perception of these patterns, and meanings associated with them. Landscapes encompass both physical and intrinsic aspects. **Mana whanui** view the landscape as an historical record of past events. The landscape depicts occupation and whakapapa, showcasing the relationship between the people and the land. Oral traditions and landscape features combine to convey the history of **hapu whanui** in the District.

Hastings is characterised by, and known for, it's significant natural landscape, with sun-baked hills surrounding a fertile basin of orchards, vineyards and farms.

Hastings District has simple and dramatic natural landforms which strongly express the geological processes forming the east coast of the North Island.

The natural heritage and landscape character of the District is distinct and highly valued by the community. Protection of natural heritage and landscape character is largely achieved through District Plan provisions. The District Plan identifies:

- 'Significant Vegetation, Habitats & Geological Sites' termed 'Recommended Areas for Protection' (RAPs), being those remnants of significant indigenous vegetation and significant habitats of indigenous fauna in the District; and
- 'Significant Landscape Character Areas' (SLCAs) and 'Outstanding Natural Features' (ONFs), being significant landscapes and landscape features identified throughout the District.

Indicators

The table below shows the indicators that are used to monitor the state of natural heritage and significant landscapes in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Te Mata Peak
Source: Hastings District Council

INDICATORS FOR NATURAL HERITAGE/LANDSCAPE CHARACTER

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected and sustained for future generations	Operative District Plan Section 12.2.6 (Landscape Areas): • No outstanding natural features and landscapes are visually compromised by building development, earthworks and plantations. • New building development and earthworks in outstanding landscape areas are sensitively integrated into their landscape surroundings. • Larger scale earthworks will not visually intrude on the natural form of rural ridgelines, spurs, and hill faces. • An increased awareness of the potential effects of buildings and earthworks on the rural landscape. • A greater public awareness of the nature and significance of outstanding natural features and landscapes, and the types of activity that would have an adverse visual or landscape effect on those features. Section 13.10.6 (Indigenous Vegetation): • Improved protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna, and significant geological sites. • Maintenance and enhancement of the biodiversity of indigenous plant and animal species within Hastings District and the natural habitats and ecosystems that support them. • A greater public awareness of the type, location, significance and vulnerability of indigenous vegetation, habitats and geological sites and available methods of protection. Proposed District Plan (2013) Section 17.1 (Natural Features and Landscapes) • There is a greater public awareness of the different landscape areas throughout the District, and the activities that could have an adverse effect on the key elements, patterns and character that contribute to the significance of those landscape areas. • Buildings do not visually intrude on the natural form of rural and coastal ridgelines and spurs. • Large scale earthworks do not visually intrude on the natural form of rural and coastal ridgelines, spurs, and hill faces. Section 20.1 (Indigenous Vegetation and Landscapes) • Improved protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna, and significant geological sites. • Maintenance and enhancement of the biodiversity of indigenous plant and animal species within Hastings District and the natural habitats and ecosystems that support them. • A greater public awareness of the type, location, significance and vulnerability of indigenous vegetation, habitats and geological sites and available methods of protection.
NC1	Subdivision and Development within Significant Landscape Character	Pressure	Protection of significant and outstanding landscapes is a critical component of the wider environment which the community strives to protect for future generations in a sustainable manner. The number of significant and outstanding landscapes identified in the District Plan and thus afforded specific protection	

	Areas (SLCA) & Outstanding Natural Features (ONF)		by the Resource Management Act is a valuable measure of how appreciated and protected such resources are. Hastings has a variety of landscapes which contribute to its heritage and character. Maintaining the diversity of the District's landscape heritage relies upon maintaining the features that give the District its character. The volume and type of consents for development directly affecting SLCAs and ONFs provides an indication of pressure on these landscapes and risk of damage or loss.
NC2	Building Activity within Significant Landscape Character Areas (SLCA) or Outstanding Natural Feature (ONF) Areas	Pressure	(refer above)
NC3	Significant Indigenous Vegetation and Significant Habitats of Indigenous Fauna	State	Human habitation and land development has resulted in most of the District's natural landscape(s) being modified. Today there are very few areas of remnant indigenous vegetation remaining. This increases the importance of protecting those remaining areas of native forest, wetlands, and regenerating scrubland. The number of significant natural areas identified in the District Plan and thus afforded specific protection by the Resource Management Act, and also those areas protected by private covenant (e.g. QEII open space covenants), are a valuable measure of how appreciated and protected such resources are.

Monitoring Information

Indicator NC1: Subdivision and Development Activity within Significant Landscape Character Areas (SLCA) or Affecting Outstanding Natural Features (ONF)

The number of significant and outstanding landscapes identified in the District Plan and thus afforded specific protection by the Resource Management Act is a valuable measure of how appreciated and protected such resources are.

The Operative District Plan, as of 2014 identifies a total of 17,600 hectares of land as being of significant landscape character or as containing outstanding natural features. This equates to approximately 3.4% of the total land area of the District. These areas are delineated on the Planning Maps.

'Outstanding Natural Features' (ONFs) include:

- Te Mata Peak (ONF1 and 2)
- Kahuranaki (ONF3)
- Mt Erin – Kohinurakau (ONF4)
- Cape Kidnappers (ONF5)
- Whakaari Headland – Tangoio Bluff (ONF6)
- Maungaharuru Range (ONF7)
- Kaweka and Ruahine Ranges (within Forest Park boundaries) (ONF8)
- Lake Tutira Basin (ONF9).

Together these features cover approximately 4,900 hectares in the District.

'Significant Landscape Character Areas' (SLCAs) are listed by their general location, including:

- Waipunga – Tarawera (SLCA1)
- Eskdale (SLCA2)
- Tutaekuri Valley (Dartmoor – Puketapu – Omarunui Rds) (SLCA3)
- Hills surrounding Heretaunga Plains (SLCA4)
- TukiTuki Valley – Te Mata Section (SLCA5)
- Ocean Beach (SLCA6)
- Ocean Beach Settlement (SLCA7)
- Clifton (SLCA8)
- Waitangi Estuary and Shingle Pits (SLCA9)
- Tangoio Beach Settlement (SLCA10).

Together these features cover approximately 12,700 hectares in the District.

Photo: TukiTuki Valley
Source: Hastings District Council

Te Mata Peak (ONF1 and 2) and Cape Kidnappers (ONF5) are nationally and internationally recognised landscape features. The remaining areas and features have either regional or local significance.

The identification of and corresponding District Plan provisions relating to Significant Landscape Character Areas (SLCAs) and Outstanding Natural Features (ONFs) are the principle mechanism to retain these resources for future generations to appreciate. Collectively, these areas fall within the Landscape Resource Management Unit (RMU) as identified in the District Plan.

The focus of District Plan provisions is on buildings, earthworks and plantations on prominent ridgelines, hill faces and other landscape features, as these are considered to pose the greatest risk to these landscapes.

Whilst all subdivisions trigger the need for a resource consent, only some land use activities in these identified landscape areas trigger the need for resource consent.

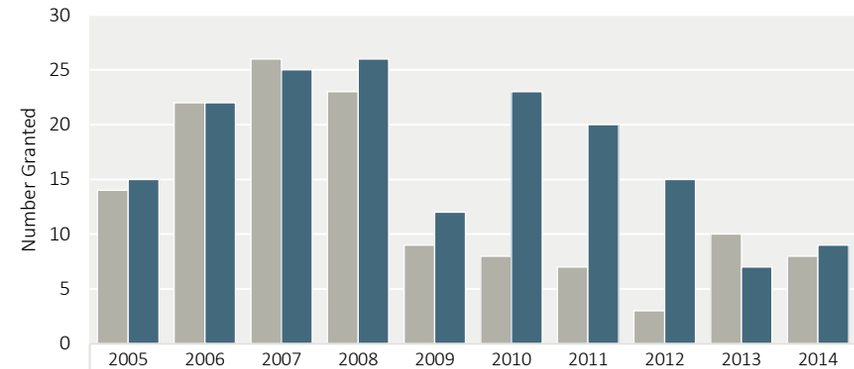
The District Plan has specific rules for some ONFs. In SLCAs, earthworks, plantations and most non-residential buildings do not trigger consent under the Landscape RMU provisions unless they lie in the Rural Residential Zone.

There are a number of activities that do not trigger the Landscape RMU provisions in the District Plan but which may have some cumulative, albeit minor, impact on these landscapes. Currently, it is difficult to gather data on these unrestricted land use activities.

The following data essentially only represents pressure from the more significant developments in the SLCA areas, or developments occurring in the more significant ONF areas of the District in general.

This still represents a useful relative indicator in terms of trends over time, and captures those activities that are most likely to impact on the landscapes.

Figure 53: Subdivision & Land Use Consents Granted in the Landscape RMU (2005-2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Subdivision	14	22	26	23	9	8	7	3	10	8
Land Use	15	22	25	26	12	23	20	15	7	9

Source: Hastings District Council

From the above graph, the number of subdivisions and the number of land use consents that have the potential to affect the Landscape RMU between 2005 and 2009 were similar in number, and have both trended significantly upwards in the 5-year period to 2008 before more than halving in 2009. The number of subdivision consents remained low over the following six year period between 2009 and 2014. This may be attributed with the Global Financial Crises and a consequent reduced demand for lifestyle sections.

During the latter half of the reporting period Land Use Consents trended downward, though remained higher than subdivision consents. The majority of land use consents have related to building new or extending existing dwellings or accessory buildings. It is likely that many of these land use consents reflect the development of sections created by subdivision in the earlier reporting years.

The previous State of the Environment Report identified that Council did not record the specific SLCA's or ONF's affected by each land use or subdivision consent application in a readily accessible way. Changes to the way resource consent data is collected meant that this information is now more readily available. However given the relatively small number of resource consents in these areas, the data is highly sensitive to human error associated with data entry. Therefore future reporting would benefit from a concentrated effort to record details of resource consents accurately, as over time it would more provide more reliable data identifying those landscapes which are experiencing the greatest or growing pressures, and whether there are certain types of activities affecting particular landscape areas.

Indicator NC3: Building Activity within Significant Landscape Character Areas (SLCA) or Outstanding Natural Feature (ONF) Areas

Another relative measure of development pressure in the Landscape RMU is actual building activity. The following graph shows the number of building consents granted within the respective ONFs and SLCAs between 2009 and 2014.

Table 9: Building Consents by ONF/SLCA Area (2004-2008)

Number of buildings consents for new buildings in each SLCA/ONF area (2009-2014)	2009	2010	2011	2012	2013	2014	Total
ONF1 Te Mata Peak – West Face							**0**
ONF2 Te Mata Peak – East Face							**0**
ONF3 Kahuranaki	1						**1**
ONF4 Mt Erin – Kohinurakau						1	**1**
ONF5 Cape Kidnappers							**0**
ONF6 Whakaari Headland – Tangoio Bluff							**0**
ONF7 Maungahururu Range							**0**
ONF8 Kaweka and Ruahine Ranges							**0**
ONF9 Lake Tutira Basin	1						**1**
SLCA1 Waipunga-Tarawera							**0**
SLCA2 Eskdale	3	2	4	4	3	2	**18**
SLCA3 Tutaekuri Valley	9	9	7	4	2	2	**33**
SLCA4 Hills surrounding Heretaunga Plains	10	19	15	13	12	19	**88**
SLCA5 Tuki Tuki Valley – Te Mata Section	5	5	3	0	0	3	**16**
SLCA6 Ocean Beach		1					**1**
SLCA7 Ocean Beach Settlement							**0**
SLCA8 Clifton							**0**
SLCA9 Waitangi Estuary and Shingle Pits							**0**
SCLA10 Tangoio Beach Settlement							**0**
Total	**29**	**36**	**29**	**21**	**17**	**27**	**159**

Source: Hastings District Council

During the previous reporting period (2004 to 2008), virtually no building consents were granted within the ONFs – there were no new structures granted, and only three (3) building consents were granted involving alterations to existing structures (two in ONF3 (Kahuranaki) and the other in ONF9 (Lake Tutira Basin).

As shown above, this trend continued in 2009-2014, with only three building consents for new buildings located on ONFs received.

This indicates that pressure to build in the more highly-valued outstanding landscapes of the District has been extremely low (possibly by nature of its protection in the District Plan).

Building is not as constrained in the SLCA areas, and this is evident in the number of building consents granted within those areas over the whole of the reporting period. Consents have concentrated on SLCA2 (Eskdale), SLCA3 (Tutaekuri Valley), SLCA4 (Heretaunga Hills), and SLCA5 (Tuki Tuki Valley-Te Mata).

SLCA4 has been subject to 88 building consents for new structures (mostly new residential dwellings) – by far the most. This is not necessarily an indication of pressure of itself, or of an adverse impact on landscape values, as it may merely reflect that SLCA4 is the largest area, and contains significant areas zoned Rural Residential in which development is expected to occur (albeit sympathetically within the landscape).

Over the reporting period, building consents for new dwellings in SLCAs and ONFs accounted for 8 % of the total number of building consents for new dwellings in the District. It would be useful to continue to monitor building activity over time to watch for trends that indicate increasing demand.

Indicator NC4: Significant Indigenous Vegetation and Significant Habitats of Indigenous Fauna

Human habitation and land development have resulted in most of the District's natural landscape being modified. Today there are very few areas of remnant indigenous vegetation remaining. This increases the importance of protecting those remaining areas of native forest and wetlands. The majority of remnant forest and wetlands areas are not formally protected to ensure their continued existence and enhancement.

The Operative District Plan recorded 67 areas of 'Significant Vegetation, Habitats & Geological Sites', comprising 58 Recommended Areas for Protection (RAPs) and 9 Geopreservation sites. Together these represent approximately 8,335 hectares of land identified as containing significant indigenous vegetation, significant habitats or indigenous fauna and significant geological sites. This represents 1.64% of the District's total land resource.

As a result of the 2004-2008 State of the Environment Report, council began recording the number of resource consent applications involving an RAP or Geopreservation site. This data is available from 2011 onwards. Over this period, there were no resource consents involving Geopreservation sites and a small number involving Recommended Areas for Protection. These are outlined below:

Table 10: Resource Consents Relating to Recommended Areas for Protection (RAP)

Year	Consent Type	RAP Area	
2011	Subdivision	RAP08	
	Land Use	RAP54	RAP55
	Land Use	RAP08	RAP37
2012	Land Use	RAP32	
	Subdivision	RAP15	
	Land Use	RAP19	
2013	Land Use	RAP36	RAP54
	Land Use	RAP19	
	Subdivision	RAP19	
2014	Land Use	RAP22	
	Subdivision	RAP17	
	Subdivision	RAP38	RAP55
	Subdivision	RAP19	

Source: Hastings District Council

In addition to those areas identified in the District Plan, there are other methods of protecting natural areas that may provide some indication of the state of the District's remaining natural areas, such as QEII Open Space covenants which protect special open space features on private land in perpetuity, and **Nga Whenua Rahui** which are areas of native forest on Maori-owned land voluntarily set aside for protection.

Data from the Queen Elizabeth II National Trust confirms there are 233 open space covenants within the Hawke's Bay Region, as at end 2014. The number of covenants approved each year has decreased from 37 in 2009 to 15 in 2014. However as covenants protect land in perpetuity this still represents an increase in land protected by QEII covenants.

The average covenant size for Hawke's Bay Region is 43.4ha, slightly above the average covenant size for New Zealand (40.25ha).

Information on **Nga Whenua Rahui** within the District will be added in future state of the environment reporting.

Approximately 17,600ha (3.4%) of Hastings District is currently identified in the District Plan as 'outstanding natural features' or 'significant landscape character areas'. These notations place additional restrictions on the use, development and subdivision of land. The number of resource consents affecting these features or areas has decreased continually since 2010.

In addition, the District Plan identifies 67 areas of 'significant vegetation, habitats and geological sites' and there are also a number of QEII Open Space covenants on private land in Hastings District.

Responses

For Community

- If you are building or developing in the District, recognise and integrate your developments into the landscape
- Take the time to learn about or visit some of the outstanding landscapes and natural areas within the District.

For Council

- Council has initiated a number of projects which enhance the protection of the natural heritage and landscape character of the District. These include the CBD Strategy which seeks to maintain views of the Te Mata Peak icon from the Hastings City centre
- In 2005 Council completed a separate set of Landscape Guidelines for developers to use when planning anything from stand-alone developments to larger projects. The purpose of the Guidelines is to encourage development design that protects and enhances the qualities of Hastings District's rural landscapes.

Cultural and Historic Heritage

Cultural heritage comprises the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Positive public perception, awareness of the cultural and historic issues and support for investment in the District's heritage are important components of any successful programme to protect and enhance the resource for future generations.

The built heritage of hapu whanui are the marae of which there are 23 in the Hastings District. The District has 67 sites of significance registered as waahi tapu in the District Plan. These sites record important events and cultural practices. Protecting these sites from inappropriate development assists the oral traditions and customary practices of tangata whenua with mana whenua, and protects cultural and historic heritage values for the community as a whole.

Hastings District has numerous recorded cultural heritage items including historic areas, buildings and objects, trees, waahi tapu and archaeological sites.

Specific legislation designed to protect heritage items includes the Heritage New Zealand Pouhere Taonga Act 2014 and the Resource Management Act 1991. The Heritage New Zealand Pouhere Taonga Act 2014 provides a framework for the identification and listing of heritage items and archaeological sites. The District Plan identifies those heritage resources worthy of protection and identifies methods to assist in the preservation of heritage resources. Some items in the District Plan also list Historic Places Trust registered items.

Indicators

The table below shows the indicators that are used to monitor the state of cultural and historic heritage in the District.

These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Street Sculpture in Hastings CBD
Source: Hastings District Council

INDICATORS FOR CULTURAL & HISTORIC HERITAGE

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • Communities that value and promote their unique culture and heritage. • Places, spaces, activities and events celebrating and strengthening the identities of all cultures within Hawke's Bay. • Maori culture and language is respected, promoted and strengthened in the community.	Operative District Plan Section 12.5.6 (Heritage Items & Trees): • The preservation of a representative range of heritage items of significance to present and future generations of Hastings District residents and visitors. • Maintenance and enhancement of heritage items to enable their continued use and enjoyment while not detracting from their heritage value. • Reduction in the destruction of heritage buildings. • The retention, within their natural life span, of trees or groups of trees, which have outstanding heritage value to the District's residents and visitors. • Greater public awareness of heritage within the District. Section 12.5.6 (Waahi Tapu): • Recognition of the cultural importance of Waahi Tapu sites to Tangata Whenua. • Protection of notified Waahi Tapu sites from the effects of land use activities. • Active participation of Tangata Whenua in the management of their ancestral land and resources. • Identification of places of special significance to the Tangata Whenua, and the maintenance of their values. Proposed District Plan (2013) Section 16.1 (Waahi Tapu and Sites of Significance) • Recognition of and provision for Tangata Whenua cultural relationships associated with Waahi Tapu, Waahi Taonga and sites of significance • Protection of listed Waahi Tapu and Waahi Taonga sites from the effects of land use activities. • Active participation of Tangata Whenua in the management of their ancestral land and resources Section 18.1 (Heritage Items and Notable Trees) • The preservation of a range of Heritage Items of significance to present and future generations of Hastings District residents and visitors. • Reduction in the destruction of heritage buildings. • The retention, within their natural life span, of trees or groups of trees which have outstanding heritage value to the District's residents and visitors
H1	Residents' Perception of Public Art and Cultural Opportunities	State	Public perception and awareness of public art and cultural opportunities gives an indication of people's appreciation of their culture, and reflects respect for and strengthening of the identities of all cultures within the District.	
H2	Council spending on heritage and culture	State	Monitoring Council spending on heritage and culture enables the identification of trends in investment in heritage and culture.	
H3	Consents to Modify/Destroy Heritage Items and Waahi	Pressure	The number and location of heritage items and waahi tapu provides a snapshot of the District's cultural heritage and, in the case of waahi tapu, identification of places of special significance to Tangata Whenua and a respect for Maori culture and values. The extent to which formal methods of protection are afforded to	

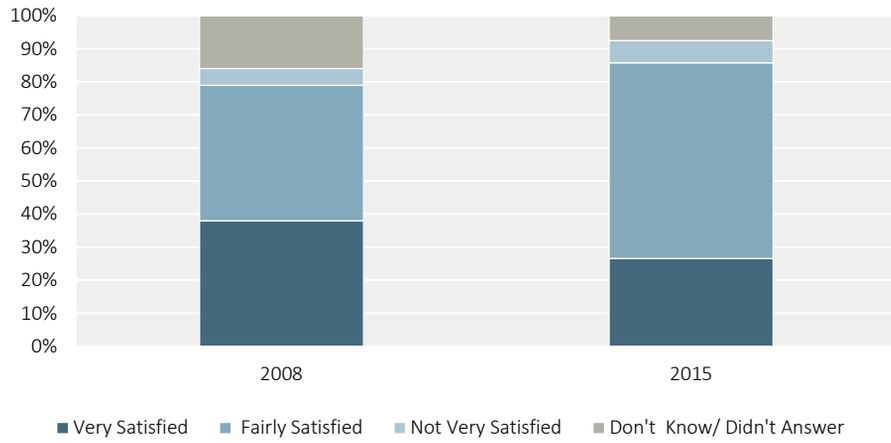
	Tapu		heritage items in the District indicates how much we appreciate and respect the cultural heritage of our District, and assists in the retention of these resources. The number of consents to modify or destroy heritage items or archaeological sites can identify pressure on historic and cultural resources.
H4	Archaeological Sites and Authorities to Modify/Destroy Archaeological Sites	Pressure	The number of new archaeological sites surveyed over time provides an indirect indication of development pressure as archaeological survey generally accompanies development proposals, but also reflects the management and preservation of historic heritage for future generations. The number of authorities to modify or destroy archaeological sites can identify pressure on historic heritage.

Monitoring Information

Indicator H1: Residents' Perception of Public Art and Cultural Opportunities

To achieve community support for protection and promotion of Hastings' unique culture and heritage, residents must first understand what the resource is and why it is important and valuable to their community and to the nation.

Figure 54: Residents' Satisfaction with Public Art and Cultural Opportunities in the Hastings District



Source: Communitrak Survey and Public Voice Survey

Of the 503 respondents to Council's Communitrak Survey in 2008, when asked about their level of satisfaction with arts and cultural opportunities within the District, 79% were 'satisfied' or 'very satisfied'.

The same question was asked as part of the Public Voice Survey. Of the 331 respondents, 86% of respondents reported being either 'satisfied' or 'very satisfied' with public art and cultural opportunities in the District. This is a good improvement and may be the result of increased spending on public art. However, it should be noted that the two sets of data were obtained using different surveys and there could be variation in survey parameters.

Indicator H2: Council spending on heritage and culture

Parks area only				
ELEMENT	2010-11	2011-12	2012-13	2013-14
Arts and heritage spend				
Public Art	0	0	$35,000	$15,000
Murals	$5,000	$5,000	$5,000	$5,000
Façade Enhancement	$14,000	$3,000	$22,000	$12,000
Council heritage Buildings imps – Est	$20,000	$106,000	$30,000	$50,000
Urban Design – Consultancy Estimate				
CBD, urban parks, streetscapes	$100,000	$100,000	$150,000	$100,000

Hastings District Council

Council spending on Arts & Heritage, Murals, Façade Enhancement, Council Heritage Buildings, urban parks, and the streetscape has generally increased over the reporting period. There has been a corresponding improvement in residents' sense of pride in the way Hastings City looks and feels.

Indicator H3: Consents to Modify/Destroy Heritage Items and Waahi Tapu

The number of heritage and waahi tapu items provides an indication of the cultural capital present in the Hastings District. As at 2010, there were 315 heritage items (including 148 outstanding trees) and 57 Waahi Tapu sites recorded in the District Plan.

Table 11: Heritage Items in the Operative District Plan

Heritage Items	Number
Outstanding Trees (T1 – T154 not consecutive)	148
Significant Trees (T179 – 196)	18
Heritage Items (H1–H87 not consecutive (including approximately 76 heritage buildings)	85
Historic Areas	3
Heritage Buildings (Te Mata Special Character Area)	4
Waahi Tapu sites (W0- W67 not consecutive)	57
Total	**315**

Modification or destruction of heritage items can impact on the cultural and historic heritage of the District. The number of resource consents to modify or destroy listed heritage items can therefore identify growing pressure on these sites, and gives a general indication of pressure on cultural heritage.

It should be noted that not all activities affecting heritage items are necessarily detrimental – resource consents are often required even where the activity is beneficial to the maintenance and protection of a heritage item.

The above results indicate that pressure on listed heritage items, outstanding trees and waahi tapu sites in the District is very low.

There have only been 32 resource consents affecting these items over the two reporting periods of 2004-2014. Of these, the majority were to alter or relocate buildings (20), with only 2 resource consent application to actually demolish an item.

Resource consents relating to heritage and waahi tapu items between 2004 and 2008 involved:

- Modification of waahi tapu (W67) in the vicinity of Oingo Lake as a result of earthworks associates with subdivision in 2004
- Modification of waahi tapu (W3) in the vicinity of Korongata Urupa as a resultof ground disturbance in 2005
- Internal and external alterations to the Municipal Theatre (H3) and Former Council Chambers (H2) in 2005 and 2006 respectively;
- Demolish a building located within the Central Character Precinct in 2006 (the building was not a registered heritage building) in order to make space for car parking. The building had been damaged by fire
- Internal and external alterations to a dwelling 'Whare Ra' (H8) in 2007;
- Internal and external alterations to the former Westerman's Building in 2007;

Resource consents relating to heritage and waahi tapu items between 2009 and 2014 included:

- Replace entrance to St Matthew's Anglican Church in 2010; and
- Modification of Waingongoro river bed (W26) in 2011 as a result of reshaping the river
- Demolish the Albert Hotel (Category II Heritage Building) in 2013.
- Increase roof pitch and replace windows in the Women's Rest building in 2014.

Given the small number of resource consents relating to heritage and waahi tapu items, it is difficult to drawn conclusive trends based on comparison between the two reporting years. However, it appears pressure on these items is low.

Indicator H4: Archaeological Sites and Authorities to Modify/Destroy Archaeological Sites

The last State of the Environment Report stated that there were 1,204 archaeological sites on the NZAA file in the Hastings District. This report does to include an updated of these figures as the number of recorded sites therefore is not meaningful in itself.

Furthermore, it should be noted that the file is only a record of those sites that have been surveyed and formally recorded. It does not reflect the total number of archaeological sites present in the District – given that sites are generally only surveyed in response to development proposals or specific request, the vast majority of the District has not been subject to detailed archaeological survey.

The Heritage New Zeland has received few applications for authorities to modify or destroy archaeological sites in the period to the end of 2014. According to Council records, there were only 28 applications for an authority granted (8 applications under Section 11 of the Historic Places Act (HPA), and 20 under Section 12 of the HPA)[38]. In total, 12 of the 28 authorities were granted between 2009-2014. The authorities had conditions imposed to minimise impacts on the archaeology present. Many of these authorities involved multiple archaeological sites, and some involved site modification as well as site destruction.

[38] Applications to modify or destroy a particular recorded archaeological site are made pursuant to Section 11 of the Historic Places Act 1993; whereas applications for sites (recorded or not) within a specified area of land (e.g. forestry block, subdivision), are made pursuant to Section 12 of the Act. The Historic Places Act was repealed by the Heritage New Zealand Pouhere Taonga Act 2014.

The relatively low number of authorities granted suggests there is little pressure on archaeological sites within the District. The small number authorities required as a result of subdivision or development proposals is in stark contrast to the number of subdivisions that have occurred in the District over this period (there were 610 subdivisions between 2004 and 2014 in the Plains & Rural Zones alone). However, it is possible that there are sites being modified or destroyed for which no data is available.

The constraints of the data mean that there is currently no good indicator for measuring the state or quality of archaeological resources in the District.

Satisfaction with arts and cultural opportunities in the District is very high and, along with the number of heritage items listed in the District Plan, this suggests that the cultural heritage of the District is presently well appreciated.

Pressure on historic and cultural heritage in Hastings District appears very low, with very little activity affecting items listed and protected in the District Plan between 2004 and 2014.

Applications for authorities to modify or destroy archaeological sites have similarly been very low in number, although little can be drawn from this in terms of presenting an accurate picture of the health of historic heritage in the Hastings District as many sites are either unrecorded or may be being modified without formal approval.

The indicators do not measure the quality or health of the various heritage resources in the District. An accurate picture of the state of historic and cultural heritage in the District is therefore difficult to assess at this stage.

Responses

For Community

- Alert Council or the NZAA when potential archaeological sites are uncovered
- Find out about the stories that relate to major heritage sites, and get to know the history of your District and local area
- Treasure the memories of kaumatua and elders in our community.

For Council

- Continue to survey residents' satisfaction with access to arts and cultural opportunities
- Continue to initiate programmes to raise community awareness of and support for the cultural heritage of the District
- Ensure effects on archaeology are assessed in the processing of subdivision applications.

Photo: Municipal Theatre, Hastings
Source: Hastings District Council

Case Study: City Assist

Relates to Indicator A6

In September 2013, the City Assist team were introduced on a trial basis to patrol the CBD area in response to calls for greater security and public safety in the area. Six ambassadors were rostered to patrol the CBD 7 days a week. Ambassadors were also appointed to William Nelson Skate Park. In December 2013, three months after the programme was started, both retailers and members of the public were surveyed in order to gauge how successful the programme had been.

Respondents were asked if they had had any contact with the City Assist team and if the team made them feel safer and more secure in the CBD. In terms of the retailer group, 87% of those surveyed reported some form of contact with the City Assist team, with 86% of retailers surveyed reporting feeling more secure in their shops as a result of City Assist. Several retailers commented that they were desperately needed and commented on the positive change in the CBD.

The public also reported high levels of contact with the City Assist team. Of those who had seen City Assist in the CBD, 45% reported having spoken with them. Public satisfaction with the service they received was exceptionally high, with 98% stating the experience was either 'good' or 'great'.

The survey also showed that City Assist had resulted in the public feeling more secure in the CBD, with 83% of respondents stating they felt safer as a result of the team's presence.

The public made numerous positive comments about City Assist, focusing on the friendly and approachable nature of the team. People reported that the team were very positive for the community, especially during the school holidays and at the Thursday Night Market.

A survey of William Nelson Park users returned equally positive results. Both individual skaters (aged over 13 and unaccompanied) and families were surveyed. Every skater in the individual category reported both having seen the Skate Park Guardians and having had contact with them. All skaters in the individual category reported feeling safer as a result of the Skate Park Guardians, as did 75% of families.

The majority of the individual skaters said that the Skate Park Guardians' presence made them more likely to come to the Park with a small number saying it made little difference to them. Several of those who said the Guardians made no difference to them personally recognised that their presence was beneficial for other Skate Park users.

Ensuring that public spaces are welcoming, safe, and inclusive is essential to developing and maintaining a vibrant, attractive city.

Photo: City Assist Team

Tangata Whenua with Mana Whenua

Tangata Whenua with Mana Whenua

The 2004-2008 State of the Environment Report identified that future reports would benefit from including indicators that specifically monitor the relationship between Council and Tangata Whenua with Mana Whenua.

The indicators will seek to gather quantitative data in order to obtain information that is measurable and can be compared across reporting years. Over time, monitoring will allow trends to be identified and actions for improvement to be taken accordingly.

The broad indicators below are considered a preliminary step towards monitoring and reporting on this important relationship. They will be refined, improved, and expanded upon in subsequent years as knowledge and understanding develops. The following indicators are still in the early stages of development and as such are not refined to the point where data can be collected and meaningful conclusions drawn. However, this chapter has been included in this report to show the progression from the previous 2004-2008 report and to signal that a 'continuous improvement approach' will be taken to monitoring this relationship.

Refining and expanding on the draft indicators outlined below will require discussions with Tangata Whenua with Mana Whenua to ensure that the focus is on pertinent issues and allows meaningful conclusions to be drawn. For example, indicators may focus on matters such as who was involved, what type or what level of support was offered, when and where this support was offered, how many groups were involved, and how much support was provided.

By the next state of the environment report, it is intended that the following indicators will have been improved to the point where data can be collected and used to form a baseline that future monitoring can be compared to.

THE ISSUE AT A GLANCE

INDICATOR		SUMMARY
Marae Development & Hapu Development		
MD1	Marae development projects in Hastings District	Monitor the level of support Hastings District Council offers toward Marae development (e.g. Marae upgrades, water supply, and waste water systems) and development on Maori land adjoining Marae (e.g. opportunities for Papakainga Development).
HD1	Hapu development in Hastings District	Monitor the number of Hapu Development Plans held by Council and how Hapu Development Plans inform Council plans and policies.
Ecological Projects		
EP1	Ecological projects that are informed by cultural knowledge and values	Have cultural knowledge and values informed ecological projects such as native re-vegetation projects.
EP2	Consultation with Hapu when preparing Reserves Management Plans	Monitor whether hapu are included in co-management regimes and whether Reserve Management Plans make provision for revegetation with native plants for fibre and pharmacology in a way that will attract kaitiaki partnerships for care and access to plantation resources consistent with customary practices.
Language and Information		
LI1	Use of Te Reo Maori in Council documents and processes	How Te Reo Maori is included in Council documents and processes and whether Maori place names are known and used.
LI2	Opportunity to include Maori advice in Council projects	Is information is made available to whanau and hapu in sufficient time to advise Council of cultural values and practices to achieve best practice in the process and outcomes of projects to benefit both Maori specifically and the community in general.

Sustainable Infrastructure

Sustainable Infrastructure

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Transportation				
T1	Motor vehicle registrations			Registrations increasing, slight increase in proportion of registered vehicles that use less fuel.
T2	Motor vehicle ownership			Increasing access to motor vehicles and increasing number of motor vehicles per household.
T3	Means of travel to work			Private car highest at 67%. Proportion cycling to work is higher than national average, but declining. Lower than national average for other modes of non-vehicular travel to work.
T4	Bus passenger numbers			Increasing bus passenger numbers.
T5	Residents' frequency of use of public transport in the previous 12 months	-		Although bus passenger numbers are increasing, the number of people using buses remains very low, with approximately 88% reporting that they have not used public transport the previous 12 months. This suggests that a small number of people are using the bus more frequently (accounting for higher numbers of bus passenger numbers), while the vast majority do not use public transport at all.
T6	Residents' rating of ease of access to public transport facilities	-		Despite the data in the previous indicator, residents' rate public transport accessibility relatively high, with only 27% reporting that it is inaccessible. This suggests that it is not access issues that prevent people from using public transport.
T7	Serious and fatal road injuries		-	At the time the report was prepared, there was no new crash data available on NZTAs website. At the date of the last report, higher crash and casualty rates than national average were observed, although there was some gradual improvement.
T8	Residents' satisfaction with Council roads			Significant improvement, with 86% surveyed being satisfied. This is compared with 72% in 2008.
T9	Residents' satisfaction with cycling facilities in the District.	-		High satisfaction, with 91% satisfied.

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
T10	Residents' feeling of safety for pedestrians and cyclists			High satisfaction with footpaths with, 81% satisfied, compared with 67% in 2008. Feeling of safety when riding a bike has significantly improved, with the proportion of survey respondents who felt cycling was dangerous or very dangerous dropping from 46% in 2008, to 36% in 2011 and 25% in 2014.
Water Management				
WS1	Consented water takes held by HDC for water supply purposes			15 resource consents held by HDC for community supplies, providing for abstraction of 940, 000m^3 of water in any 7-day average. This is compared with 13 resource consents held by HDC for community supplies, providing for abstraction of 586, 000m^3 of water in any 7-day average at the date of the last State of the Environment Report.
WS2	Domestic water consumption			Improving, with domestic water consumption per person per day dropping from an average 558 litres per day at the last State of the Environment Report, to 380 litres per person per day in 2012-2014.
WS3	Commercial and industrial water consumption			Relatively stable at around 1,600,000 cubic litres per year. It is expected that this may increase over the next reporting period as a result of water exports.
WS4	Public health water quality grading			Data not currently available
WS5	Compliance with drinking water standards			Data not currently available
WS6	Residents' rating of water quality			Continued high satisfaction with the water supply with 75% surveyed being satisfied.
Wastewater Treatment				
WW1	Consented wastewater discharges held by HDC			Two consents are held by HDC for community wastewater schemes – (1) East Clive Ocean Outfall Consent and (2) Waipatiki Scheme Consent.
WW2	Compliance with conditions for wastewater discharges			Quality of wastewater discharged from the East Clive Wastewater Treatment Plant meets the consent condition requirements. The Waipatiki Wastewater Scheme results show that the scheme has met technical compliance in 20013/14 and 2014/15 and has had some environmental non-compliance. Environmental non-compliance relates to the Nitrate limit being exceeded.
WW3	Volume of wastewater produced			Annual average daily volume from East Clive Plant is approximately 48,500m^3. This is compared with 53,000m^3 at the time of the previous report.
WW4	Residents' satisfaction with Sewerage System			Continued high satisfaction with only 1% of respondents stating they were not satisfied with the Wastewater system.

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Trade Waste Disposal				
TW1	Amount of trade waste discharged through the separated trade waste conveyance system			There has been a general downward trend in the total volume of trade waste discharged.
TW2	Number of industries connected to the separated trade waste conveyance system			There are 28 industries connected to the separated trade waste system. This is compared with 22 at the time of the last report.
TW3	Number of reported incidents of non-complying discharges of trade waste			In 2008/09-2013/14 there was only 1 trade waste consent related warning notice issued per year.
Energy Use				
E1	Electricity consumption			Annual residential electricity consumption has been steady in Hawke's Bay Region between 2010 and 2014.
E2	Sustainable energy use projects			There is currently no definitive way of monitoring the number of organisations that have taken up sustainable energy use projects. Therefore, there has been no change to how this indicator is monitored since the last report. As the information currently available does not provide for meaningful conclusions to be drawn, this indicator may need to be altered for future State of the Environment monitoring.

Section 31 of the RMA gives the District Council the function of managing and controlling the effects of the use, development, or protection of land.

The District's environmental health depends a great deal on the essential infrastructural 'bones' of a functioning community – transportation, water, wastewater, trade waste and energy. This chapter profiles how well the District is doing in relation to the sustainability of this infrastructure, as well as the options people take around sustainable resource use and disposal.

Transportation

Transportation networks are critical in the daily functioning of the District. As a community the Hastings District is highly dependent on the mobility of its population, and particularly dependent on a well-designed roading network as its primary means of physical communication.

The District is a major producer of primary produce and manufactured goods and linkages to both domestic and international markets are crucial in maintaining a healthy economic sector[39].

The continued high dependence on motor vehicles also has a negative impact on the environment and communities – human cost in terms of crashes and fatalities, effect on air quality due to vehicle emissions, demand on existing road networks and pressure to develop new roads, and continued reliance on finite fossil fuel resources, hence the growing importance of public transportation networks and provision for non-motorised forms of transport, such as cycling and walking.

The Regional Land Transport Strategy 2008-2018[40] (as required by the Land Transport Management Act 2003) sets out the strategic direction for land transport in the Hawke's Bay region. Key actions for the Hawke's Bay Region are in the areas of:

- Travel Demand Management;
- Roading Improvements;
- Improved Land Transport Planning and Design;
- Improved Communication And Integration;
- Rail Improvements; and
- Facilitation of Alternatives to Private Passenger Transport.

It is noted that this Strategy has been replaced by the Regional Land Transport Plan (RLTP) 2015-2025. However, the RLTP 2015-2025 is outside of the reporting period and will not be referred to further in this document. Some transport indicators used in this report may need to be altered or replaced for the next report in order to track whether or not the outcomes of the RLTP 2015-2025 are being achieved.

The Heretaunga Plains Transportation Study[41] is a key strategic document for the District, and outlines how improvements are to be made to the roading network.

In addition, Hastings District Council operates Cycling and Walking Strategies, in response to the National Walking and Cycling Strategy[42].

The Hastings Cycling Strategy[43] seeks to:

- Provide for the safe and efficient movement of cyclists to, from and between all areas in the District;
- Improve access to, from and within the District by bicycle;
- Promote and increase cycling as a viable mode of transport;
- Achieve a coordinated and integrated approach to cycling in the transport system; and
- Encourage cycling and the use of facilities throughout the community.

[39] Section 2.5.6 of the Operative Hastings District Plan.
[40] *'Hawke's Bay Regional Land Transport Strategy 2008-2018'*, 2008, Hawke's Bay Regional Council.

[41] *'Heretaunga Plains Transportation Study',* 2004, joint Hawke's Bay regional and territorial authorities and Transit New Zealand.
[42] *'Getting there – on foot, by cycle: Strategic Implementation Plan 2006-2009',* 2006, Ministry of Transport & Land Transport New Zealand.
[43] *'Towards Better Cycling – The Hastings Cycling Strategy'*, 2001, Hastings District Council.

The Hastings Walking Strategy[44] seeks to:

- Encourage walking in the district;
- Connect parks, reserves, and points of interest;
- Incorporate existing walking tracks;
- Incorporate shared use of the cycle paths enabled by the Cycle Strategy; and
- Enhance safety for pedestrians.

Hawke's Bay Regional Council has also developed a Regional Passenger Transport Plan[45]. The purpose of this Passenger Transport Plan is to provide guidance for the Regional Council in the provision of public passenger transport services, by outlining the passenger transport needs of the region, the Council's objectives and policies to address those needs, and the services required to meet them.

The three strategies outlined above have not been updated since the last State of the Environment Report. Therefore, the outcomes remain relevant to this report.

Indicators

The table below shows the indicators that are used to monitor traffic and transport in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: Cars on Heretaunga Street, Hastings – early mid 1960's
Source: Hastings District Council

[44] *'Hastings Walking Strategy'*, 2004, Hastings District Council.
[45] *'Hawke's Bay Regional Passenger Transport Plan 2008-2018'*, 2008, Hawke's Bay Regional Council.

INDICATORS FOR TRANSPORTATION

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • Transport infrastructure and services that are safe, effective and integrated. • A safe and efficient transport network. • An inclusive, accessible and affordable transport system. • An integrated transport system with efficient linkages supporting national and regional economic development.	Operative District Plan Section 2.5.6 (Transportation): • The establishment of an effective arterial and collector roading system to manage vehicle flows and provide attractive routes for heavy vehicles and inter-District/region traffic. • The improved use and integration of environmentally sustainable transportation forms throughout the urban area, and across the Heretaunga Plains. Section 14.1.6 (Traffic Sightlines, Parking and Loading): • Protection of the safety and efficiency of the District Roading Network. Proposed District Plan (2013) Section 26.1 (Transportation) • A transportation network that actively encourages alternative transport modes • A safe and efficient District Transport Network
T1	Motor Vehicle Registrations	State	These indicators will enable Council to monitor trends around dependence on motor vehicles, uptake of non-motorised transport and sustainable modes of transport, accessibility and safety and efficiency of the district's Transport network.	
T2	Motor Vehicle Ownership	State		
T3	Means of Travel to Work	State		
T4	Bus Passenger Numbers	State		
T5	Residents' frequency of use of public transport	State/Pressure		
T6	Residents' rating of ease of access to public transport facilities	State		
T7	Serious and Fatal Road Injuries	Impact		
T8	Residents' Satisfaction with Council Roads	State		
T9	Residents' satisfaction with cycling/walkway infrastructure in the District	State		
T10	Residents' Feeling of Safety for Pedestrians and Cyclists	State		

Monitoring Information

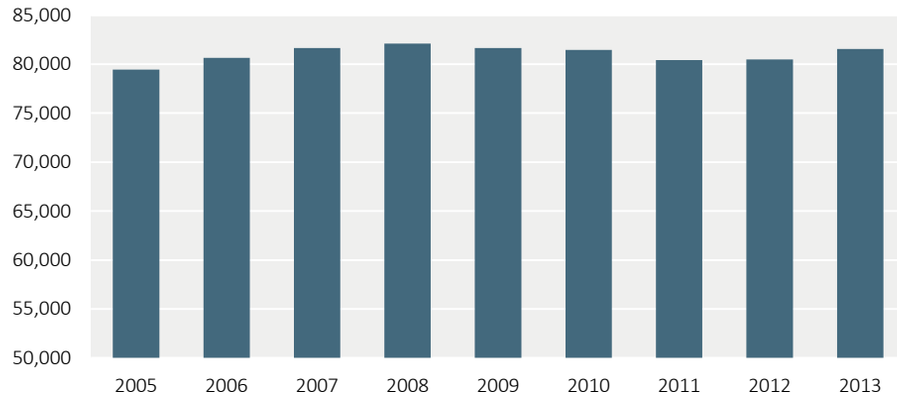
Indicator T1: Motor Vehicle Registrations

Knowing how many vehicles are registered in the District gives us a picture of the number of vehicles on our roads.

Increasing vehicle registrations generally result in an overall increase in the number of vehicles on roads. A trend in the number of registered vehicles over time also gives an insight into traffic congestion, fossil fuel consumption and air pollution.

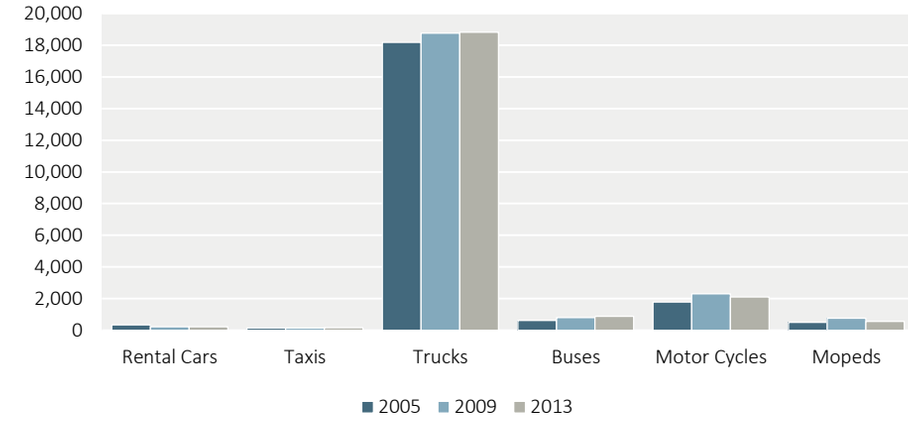
Currently vehicle registration statistics are collected by 'Postal District' level rather than by territorial authority area. The following data therefore refers to the Napier Postal District (similar to the Hawke's Bay Region), not Hastings District. In time, data may be collected and made available at territorial authority level. For the remainder of this Indicator (T1) 'District' refers to Napier Postal District. There was no data for 2014 available at the time this report was prepared.

Figure 55: Number of Cars Registered in the Napier Postal District



Source: New Zealand Transport Agency

Figure 56: Number of Other Motor Vehicles Registered in Napier Postal District



Source: New Zealand Transport Agency

Total registered vehicles rose 3.5% over the 9-year period from 2005-2013[46].

Car registrations increased by 2.67% (an additional 2,120 cars) over the 9-year period; truck registrations rose 3.5% (636 trucks); bus registrations rose 39.87%% on 2005 numbers (250 buses); motorcycle registrations rose by 18.02% (322 motorcycles), and moped registrations rose by 12.88% (63 mopeds).

However, it is interesting to note that the above trends are quite different when based on the 2009-2013 figures.

[46] This data excludes 'trailers', 'tractors', 'exempt vehicles' and 'miscellaneous' vehicles (a miscellaneous vehicle, in registration statistics, is one which, by its design, is not of a commonly defined vehicle type e.g. steam engine, crane, etc).

Figure 57: Types of vehicles registered in the Napier Postal District (2005-2013)

Percentage Change in the Number of Vehicles Registered 2005-2013								
	CARS	RENTAL CARS	TAXIS	TRUCKS	BUSES	MOTOR CYCLES	MOPEDS	TOTAL
2005-2013	2.67%	-34.4%	10.07%	3.50%	39.87%	18.02%	12.88%	**3.50%**
2009-2013	-0.1%	4.74%	12.50%	0.26%	8.94%	-8.18%	-26.60%	**-0.18%**

Source: New Zealand Transport Agency.
Note: Shaded cells indicate vehicle types with significant change

The number of rental cars registered in the District decreased over the 9-year period, but with a noticeable increase in the last 5-years. The number of rental cars registered was significantly higher in 2005 than in any other year and dropped fairly rapidly between 2005 and 2013, before beginning to increase again.

The 2004-2008 State of the Environment Report noted a rapid increase in the number of registered motorcycles and mopeds during the years 2005-2008. A possible reason for this was high fuel costs. A general increase in the number of both can be observed over the 9-year period. However, this increase occurred almost solely between years 2005 and 2008.

Though the number of registered motorcycles and mopeds in 2013 was still higher than in 2005, the last six years have seen the number of registered motorcycles and mopeds decline quite rapidly, despite fuel costs remaining high. It is possible the fluctuation in registered mopeds and motorcycles was due to changes requiring more of these types of vehicles to be registered.

Since 2005 all vehicle types, except rental cars, have grown in number. At the time of the 2004-2008 State of the Environment Report, both cars and trucks dropped slightly as a proportion of all registered vehicles in the District (cars comprised 78.6% of all registered vehicles in 2005 dropping to 77.8% in 2008; trucks dropped from comprising 18% of all registered vehicles in 2005 to 17.1% in 2008). Trucks as a proportion of all registered vehicles in the District has remained relatively steady (17.8%) as of 2013, and the proportion of cars increased slightly to 78.2%. This shows that use of private cars as a mode of transport has remained relatively stable over the two reporting periods.

Indicator T2: Motor Vehicle Ownership

As for total vehicle registrations, the number of motor vehicles per household is an indicator of traffic congestion, fossil fuel consumption and air pollution.

The following graph shows the distribution of motor vehicles per household for Hastings District in the 2013 census closely mirrors that for New Zealand as a whole:

Table 12: Access to Motor Vehicles in Hastings District and New Zealand (2013)[1]

Number of Motor Vehicles	Hastings District (%)	New Zealand (%)
No access	2,058 [7.7%]	116,379 [7.5%]
One	9,465 [35.4%]	552,813 [35.6%]
Two	9,756 [36.5%]	565,095 [36.4%]
Three or more	3, 972 [14.8%]	237,471 [15.3%]
Not elsewhere included[2]	1,437 [5.3%]	59,742 [5.0%]
Total	**26,691**	**1,454,175**

1. All figures are for households in private occupied dwellings. Absentees are excluded.
2. In 1996-2001, this includes 'not specified' data and in 2001 'not stated' data. From 2006 'response unidentifiable' and 'not stated' data is included.

Source: Statistics New Zealand

The table below shows how motor vehicle ownership in Hastings District has changed between consecutive census periods from 1996 to 2013.

Table 13: Access to Motor Vehicles in Hastings District per Household (1996–2006)

Number of Motor Vehicles	1996	2001	2006	2013
No access	2,550 [11%]	2,241 [9%]	1,782 [7%]	2,058 [7.7%]
One	9,270 [40%]	8,916 [37%]	8,847 [35%]	9,465[35.4%]
Two	7,482 [32%]	8,313 [35%]	9,333 [37%]	9,756[36.5%]
Three or more	2,661 [12%]	3,144 [13%]	4,041 [16%]	3,972[14.8%]
Not elsewhere included	1,095 [5%]	1,203 [5%]	1,149 [5%]	1,437 [5.3%]
Total	**23,058**	**23,820**	**25,152**	**26,688**

Source: Statistics New Zealand

Around 40% of households in Hastings District had one motor vehicle in 1996. In 2001 this had fallen to 37% of households, and roughly 35% in 2006 and 2013.

The percentage of households with no motor vehicles had also fallen in over the 17 year period between 1996 and 2013, from 11% to 7.7% of households.

During the period between 2006 and 2013, households with access to two or more motor vehicles decreased slightly, while those with access to either one or no motor vehicles increased slightly. This is in contrast to the previous decade. Both the economic recession and the fact the population is aging are possible reasons for this.

Despite the 2013 data, the above information indicates a growing access to motor vehicles, and an increase in multiple vehicle ownership in the Hastings District. Again this mirrors that for New Zealand as a whole.

Increasing access to, and level of, vehicle ownership suggests growing traffic volumes and likely increase in fossil fuel consumption, and a potential for increased air pollution and traffic congestion. Technological improvements in fuel consumption and fuel types may have alleviated this to some small extent. For this reason, a future indicator may focus on the number of hybrid or electric cars registered in the District.

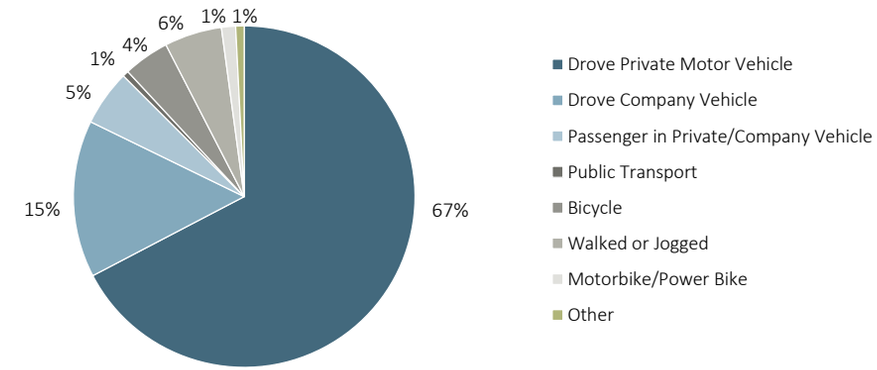
Indicator T3: Means of Travel to Work

This indicator provides us with a picture about how people get to their place of employment. Public transport (passenger bus or train) and non-motorised forms of transport (such as cycling, walking and jogging) generally represent the more sustainable means of travel to work.

These graphs are based on Census data and only include those who travelled to work on Census day. Those who worked from home, or did not work on Census day have not been included in the following graphs.

The following pie chart indicates that in 2013, 67% of employed people aged 15 years and over drove a private vehicle to work on census day and about 15% drove a company vehicle to work, with another 5% being passengers in private or company vehicles. Only about 11% took public transport or engaged in non-motorised means of travel (by bicycle or walked/jogged).

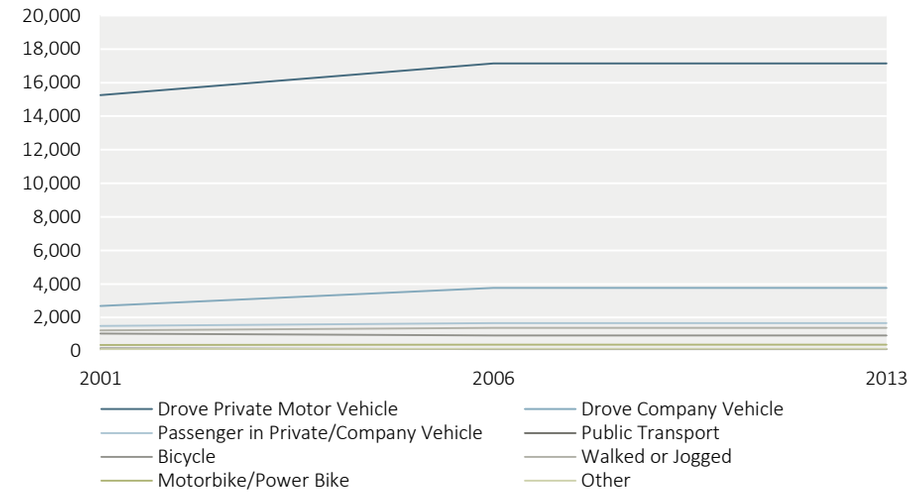
Figure 58: Means of Travel to Work on Census Day in Hastings District (2013)[1, 2]



1. All figures are for the employed census usually resident population count aged 15 years and over.
2. Graph excludes those who did not travel to work on Census day (i.e. those who worked from home and those who did not work on Census day)

Source: Statistics New Zealand

Figure 59: Means of Travel to Work in Hastings District over Time



Source: Statistics NZ

The distribution of 'means of travel to work on census day' changed very little between 2001, 2006, and 2013. While it appears those using public transport or non-motorised transport may have decreased slightly over the reporting period (11% in 2001 and 10% in 2013) this is not a significant enough to determine a trend. Factors such as rounding could account for such minor variation. These static transport patterns broadly reflect national trends.

The distribution for Hastings District compares similarly to that for New Zealand as a whole. However, nationally about 16% took public transport, biked or walked to work on census day (compared to 11% in Hastings District).

Hastings District had a slightly higher number of those travelling to work by bicycle on census day in 2013 than the national level (4% versus 3% nationally). However, the number of people cycling to work has not increased dramatically when compared with previous years. However, there has been a visible increase in the number of people cycling for recreational purposes. Future state of the environment reporting could benefit from collecting data on this. Refer to Indicator T9 for further information related to cycling in the District.

Table 14: Hastings District Means of Travel to Work on Census Day Distribution Compared to National Distribution

	2001		2006		2013	
	Hastings District	New Zealand	Hastings District	New Zealand	Hastings District	New Zealand
Drove Private Motor Vehicle	68%	64%	67%	63%	67%	63%
Drove Company Vehicle	12%	13%	15%	14%	15%	14%
Passenger in Private/Company Vehicle	7%	6%	7%	6%	5%	5%
Public Transport	1%	5%	0.4%	5%	1%	6%
Bicycle	5%	3%	4%	3%	4%	3%
Walked or Jogged	5%	7%	5%	7%	5%	7%
Motorbike/Power Bike	2%	1%	2%	1%	1%	2%
Other	1%	1%	1%	1%	1%	1%

Source: Statistics NZ

Compared to the national distribution, 2013 census data reveals that Hastings District had a lower proportion of people that travelled to work by public transport (1% versus 6% nationally), or walked/jogged to work (5% versus 7% nationally).

The lower than average proportion of people using public buses or walking or jogging may be a function of the large rural hinterland in Hastings District limiting transport choices, and the inter-relationship between the two neighbouring cities of Napier and Hastings in terms of employment options.

However, there is obviously scope to encourage greater travel to work by more sustainable modes of transport including car pooling.

Indicator T4: Bus Passenger Numbers

Public transportation systems can increase accessibility for residents and encourage a reduction in the use of private motor vehicles, which in turn reduces congestion and can help reduce overall vehicle emissions.

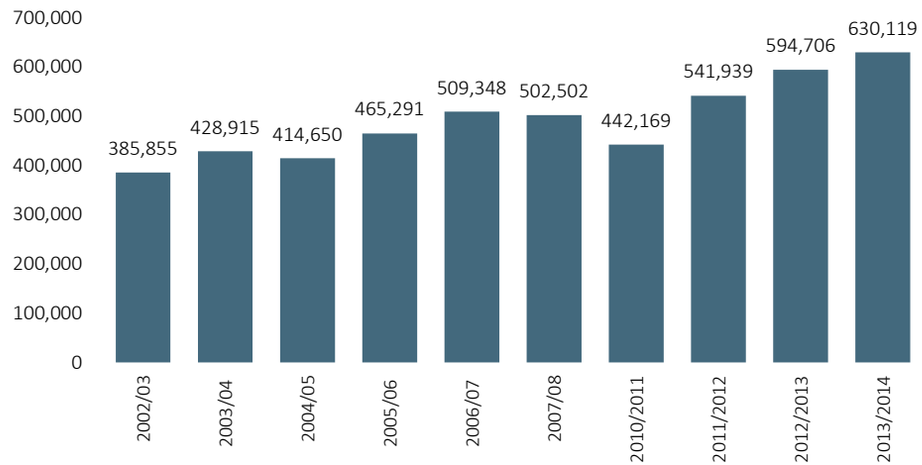
In Hastings District, the only public passenger transport currently available is a public bus system administered by Hawke's Bay Regional Council. The Regional Council are responsible for:

- Contracting public passenger transport services for the Hawke's Bay region;
- Marketing and promoting passenger transport services provided; and
- Seeking funding for passenger transport services including funding for its administration and associated infrastructure such as bus shelters and service signage.

Bus passenger patronage for the period 2002/03 (financial years) to 2013/2014 (financial year) show an overall positive trend with over 630,119 passengers in 2013/2014 – an approximate 63% increase on 2002/03 passenger numbers. This improving trend could be interpreted as a being a combination of better bus services, more awareness of and access to public transport options, and the increasing cost of fuel over recent years.

However, it is interesting that this has not translated to an increase in public transport as a mean of travel to work, or frequency of use over the same period. This suggests that a small number of people are using the bus frequently, while the majority do not use it at all.

Figure 60: Annual Passenger Numbers on Buses in Hastings District



Source: Hawke's Bay Regional Council

Indicator T5: Residents' frequency of use of public transport

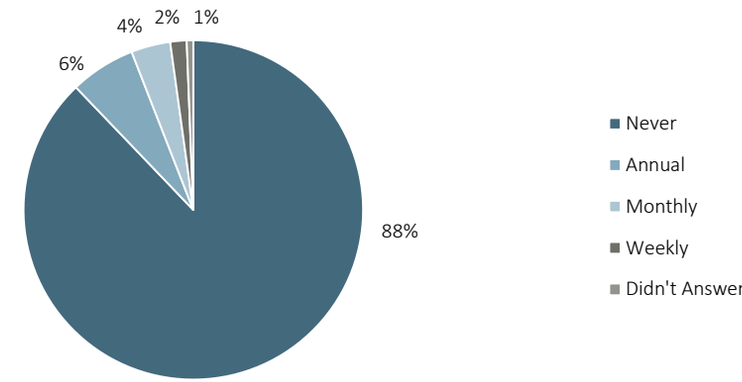
This indicator provides baseline data about how often Hastings District residents' use public transport over a 12 month period. The data shows that 85% of people surveyed had not used public transport at all in the previous 12 month period. A further 6% reported only using public transport on an annual basis. Only 2% of respondents reported using public transport on weekly basis.

Of those surveyed, 12% reported having used public transport sometime in the previous 12 months (in the year 2014). Comparative national data for the same year was not available. However, the Ministry of Transport produced a report in 2010, based on June 08-July 09 data, which stated that nearly half of all people living in main urban areas (based on the Statistics New Zealand criteria of an urban centre being one with a population of 30,000 or more) used transport in the previous 12 months[47].

The same survey revealed that 13-19% of people living in secondary urban and rural areas (secondary urban areas being urban centres with a population of 10,000-29,999 and rural areas having a population of less than 10,000 people) used public transport in the previous 12 months.

While the 2014 Public Voice data cannot be conclusively compared with the Ministry of Transport data, it appears that the Hastings District is well below average in terms of public transport use.

Figure 61: Residents' Frequency Using Public Transport in the last 12 Months (2014)



Source: Hastings District Council

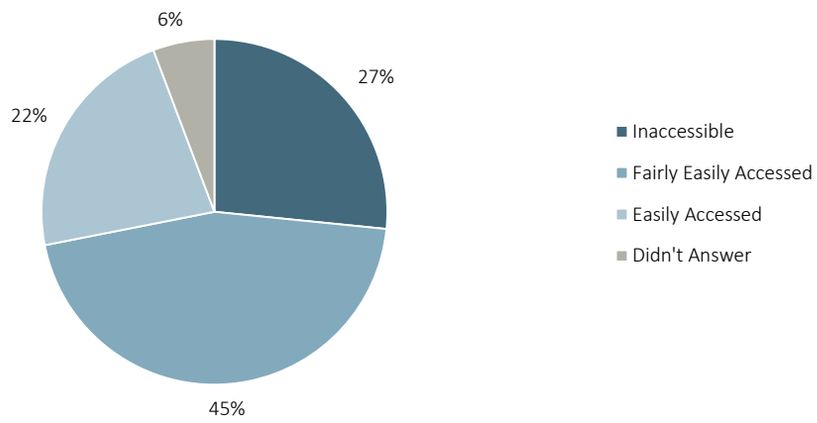
[47] Ministry of Transport (2010) http://www.transport.govt.nz/assets/Import/Documents/Public20Transport-y57.pdf

Indicator T6: Residents' rating of ease of access to public transport facilities

Accessibility to public transport may a key determinant to use of public transport; if people perceive public transport options to be accessible, they may use it more often. The following graph, based on the Public Voice survey, provides baseline data as to how Hastings residents rate the accessibility of public transport options in the District.

Over a quarter of those surveyed considered public transport to be inaccessible and almost of quarter of those surveyed stated that public transport was easily accessed. A further 45% reported that public transport was only 'fairly easily accessed'.

Figure 62: Residents' Rating of Public Transport Accessibility (2014)



Source: Hastings District Council

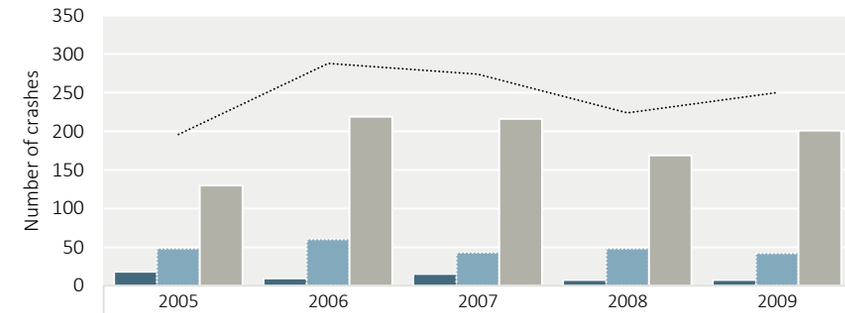
The number of people who reported public transport as 'easily accessed' (22%) contrasts with the fact only 12% of survey respondents reported using public transport at all in the previous 12 months. This suggests that while accessibility and usage are linked, accessibility is not the sole driver of public transport usage trends.

Indicator T7: Serious and Fatal Road Injuries

At the time the report was prepared, there was no crash data available on NZTAs website past 2009. At the date of the last report, higher crash and casualty rates than national average were observed, although there was some gradual improvement. The increasing number of cars on roads brings greater risk of injury and fatality from motor vehicle accidents. Examining the number of crashes, and the number of resulting fatalities and injuries, provides a picture of the safety of the District's roads. The following data has been compiled from crash statistics compiled by the New Zealand Transport Agency (NZTA)[48].

In the period from 2005 to 2009, there were 56 fatal crashes resulting in 65 fatalities, and 241 serious injury crashes resulting in 333 serious injuries. In the past decade, the worst year was 2005 when there were 18 fatal crashes and 48 serious injury crashes resulting in 23 deaths and 71 seriously injured.

Figure 63: Fatal & Serious Injury Crashes for Hastings District (1999-2009)



	2005	2006	2007	2008	2009
Fatal	18	9	15	7	7
Serious	48	60	43	48	42
Minor	130	219	216	169	201
TOTAL	196	288	274	224	250

Source: New Zealand Transport Agency

[48] *'Hastings District Road Safety Report 2005-2009'*, June 2010, Land NZTA, and briefing notes on road safety issues for Hastings District for the 2005 – 2009 period.

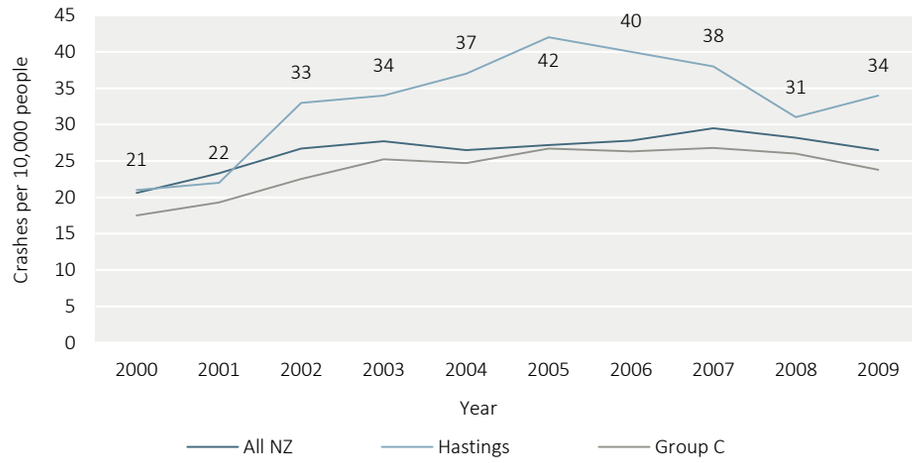
While the number of fatal crashes fluctuates year to year, the total number of fatal and serious injury crashes has been slowly decreasing over the last five years. The reasons for this are likely to be a complex function of education, enforcement and engineering improvements.

The rate of crashes and casualties[49] per 10,000 population can also be readily compared against the District's peer group and the national average.

NZTA group Hastings District with other similar local authority areas with large provincial towns and hinterland, identified as 'Group C'[50].

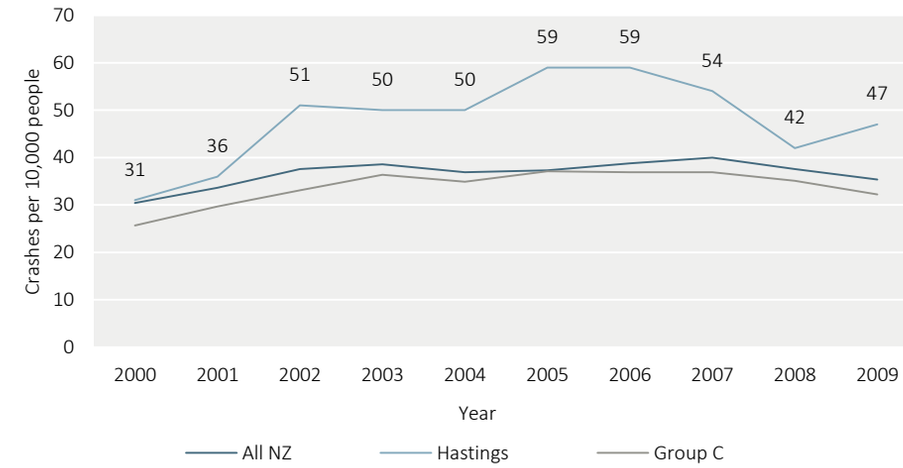
The information shows that between 2000 and 2009 Hastings District has had growing crash and casualty rates per 10,000 population, and significantly higher rates than its peer group or New Zealand as a whole.

Figure 64: Crashes per 10,000 Population (2000-2009)



Source: New Zealand Transport Agency

Figure 65: Casualties per 10,000 Population (1999-2008)



Source: New Zealand Transport Agency

In 2005, the rate of crashes and casualties per 10,000 people for Hastings District jumped to more than 50 percent higher than Group C and the New Zealand average. The reasons for this jump are not known and are likely to be complex.

Since 2005 this gap has significantly narrowed, and in 2008 Hastings District was tracking much closer to its peer group and the rate of crashes and casualties per 10,000 people across New Zealand. The reasons for this improvement are equally likely to be a combination of factors such as road safety campaigns, and road infrastructure improvements. However, Hastings District began to show an increase ahead of its peer group again in 2009. More recent data was not available at the time this report was prepared, so it is not possible to determine whether this trend has continued over the past five years.

[49] 'Crashes' are the combined number of crashes that involved fatality or injury (both serious injury and minor injury). 'Casualties' are the combined number of deaths and people injured (both serious injury and minor injury).

[50] Group C comprises Gisborne, Hastings, Kapiti Coast, New Plymouth, Porirua, Rotorua, Timaru, Upper Hutt, Wanganui & Whangarei.

The areas of high concern for Hastings District over the period from 2005 to 2009 were:

- Reducing alcohol/drug impaired drivers
- Increasing the safety of young drivers
- Safe roads and roadsides
- Safe driving speeds
- Increasing the safety of motorcyclists.

Rural Loss of Control

Rural loss of control accounted for 33% of all injury crashes in the Hastings District between 2005 and 2009. These accounted for 35 deaths, 170 serious injuries, and 495 minor injuries. Crashes on state highways accounted for 47% of the accidents and 75% of total fatalities. The remainder occurred on local rural roads. Most of these accidents involved a single vehicle losing control. However, data for the last five years show a decreasing trend in the number of crashes caused by rural loss of control. Speed and alcohol were other factors that commonly led to accidents on rural roads.

Intersections

During the most recent five year period for which data is available (2005 – 2009) 40% of all crashes in Hastings District occurred at intersections. These crashes resulted in 16 deaths and 91 serious injuries. The latest five year trends show a decrease in the number of intersection injury crashes, though numbers increased slightly between 2008 and 2009.

The locations of intersections with a high number of crashes in the District were:

- SH50/SH50A
- Nelson St North/St Aubyn St West
- SH50A/Maraekakaho/York Road
- Pakowhai Road/Elwood Road
- St Aubyn Street East/Willowpark Road North
- SH2/Napier Road
- Pakowhai Road/Farndon Road
- Havelock Road/St Georges Road.

Vulnerable Road Users

In Hastings District vulnerable road users (pedestrians, cyclists, and motorcyclists) constituted 21% of all injuries, 23% of deaths, and 31% of serious injuries over the over the five year period (2005-2009).

The number of crashes involving cyclists spiked in 2009, with the total number jumping from 23 to 37. However, there were no fatalities in 2009.

The worst accident locations or routes for cyclist injuries in the District were:

- Omahu Road Route
- Porter Drive Route
- Porter Drive/Te Aute Road
- St Aubyn St West/Willowpark Road
- Southampton St West/Southland Road
- St Aubyn Street West/Grays Road
- Tomoana Road/Frederick Street
- Tomoana Road/Heretaunga Street W
- Heretaunga Street East/Willowpark Road North.

Alcohol

Alcohol-affected drivers contributed to 15% of injury crashes in the Hastings District, leading to 19 deaths and 58 serious injuries. The number of alcohol related crashes decreased in 2008 and 2009 after a spike in 2007. A trend that is worth noting is that 55% of drivers at fault in alcohol related accidents held a learner licence, restricted licence, had never held a licence, or were disqualified. Drivers under the age of 25 were at fault in 44% of alcohol related injury crashes over this period.

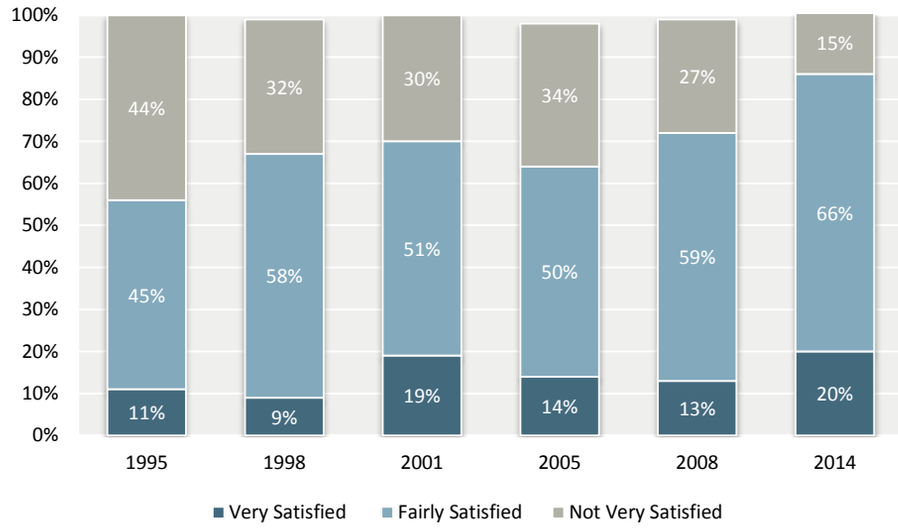
Indicator T8: Residents' Satisfaction with Council Roads

Resident's satisfaction with Council roads gives some insight into the state of Council roading infrastructure.

The following graph shows that the majority of those surveyed during the Council's Public Voice Survey were satisfied with Council roads in 2014.

With 86% of those surveyed being 'fairly' or 'very satisfied', up from 72% in 2008, Hastings District had a similar level of satisfaction to that of its peer group of similar provincial Local Authorities (also 72%), but exhibited lower satisfaction than the national average of 78%. No further comparison data was available.

Figure 66: Residents' Satisfaction with Council Road (1995-2014)



Source: Hastings District Council Communitrak Survey and Public Voice Survey

The following graph shows there has been a successive improvement since 1995 in residents' satisfaction with Council roads (with those 'fairly' or 'very satisfied' increasing from 56% in 1995 to 86% in 2008). This may reflect an appreciation of better maintenance of the roading network and/or road infrastructure improvements.

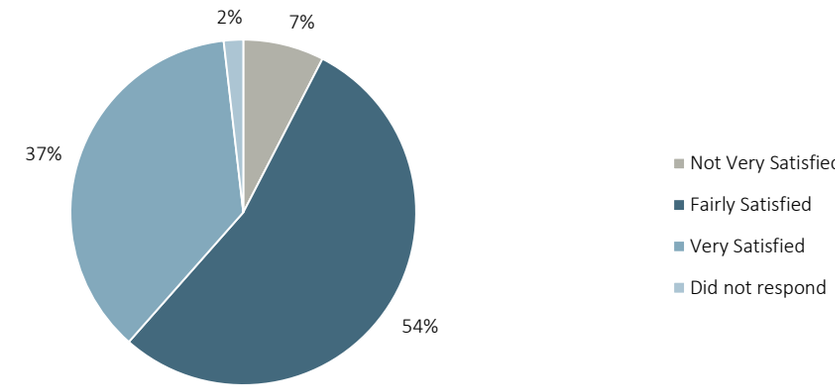
Indicator T9: Residents' satisfaction with cycling/walkway infrastructure in the District

The Public Voice survey asked residents to rate their satisfaction with cycling facilities in the District. This indicator has been added to the 2009-2014 State of the Environment Report for the first time and provides baseline data.

Overall, survey respondents displayed high levels of satisfaction with cycling facilities in the District with 91% reporting they were either fairly or very satisfied with cycling facilities.

Only 7% of those surveyed indicated that they were not very satisfied with cycling facilities. As outlined above, it would be useful to monitor recreational cycling levels.

Figure 67: Residents' Satisfaction with Cycling Facilities (2014)



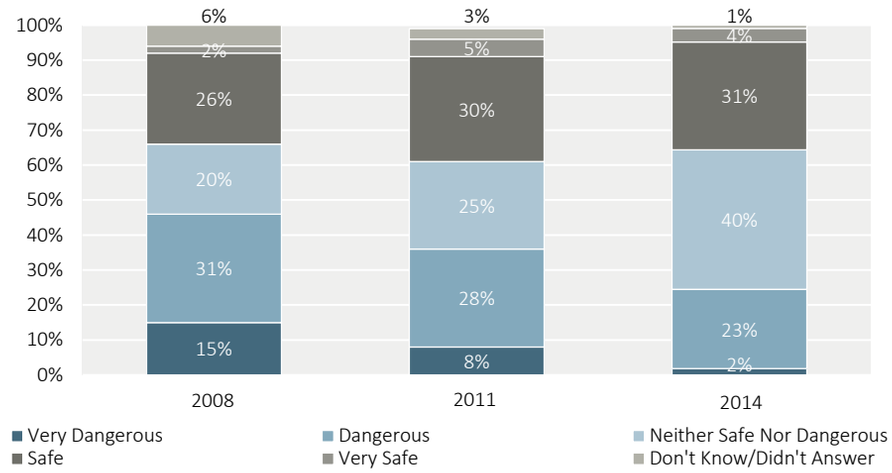
Source: Hastings District Council Communitrak Survey and Public Voice Survey

Indicator T10: Residents' Feeling of Safety for Pedestrians and Cyclists

Residents' feeling of safety as pedestrians and cyclists gives some insight into aspects that might be hindering the use of more sustainable modes of transport. In 2008, Council added two questions to its tri-annual Communitrak Survey for the first time.

These related to satisfaction with the quality and safety of footpaths, and the feeling of safety while riding a bicycle in the District. These same questions were asked again in 2014.

Figure 68: Residents' Feeling of Safety Riding a Bicycle in Hastings District (2008-2014)

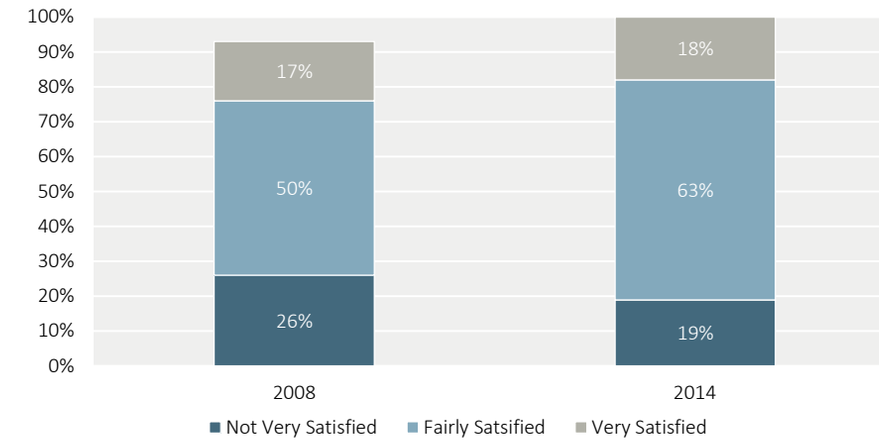


Source: Hastings District Council Public Voice Survey

The following graph shows that in 2008, only a little over a quarter of the respondents to the survey felt safe, and only 2% felt 'very safe'. A further 20% felt it was neither safe nor dangerous. Significantly, almost half of respondents felt riding a bike in the District was dangerous.

In 2014, there was significant improvement. However 25% of respondents still considered riding a bike dangerous or very dangerous. A further 40% stated riding a bike was neither safe nor dangerous. Only 35% of respondents considered riding a bike either safe or very safe. This contrasts with the fact that 91% of those surveyed indicated they were satisfied with cycling facilities in the District. This suggests that while residents are satisfied with existing cycling facilities, such as trails and paths, they do not feel safe when riding a bike in parts of the District where these facilities do not exist. Future reporting could benefit from collection of more detailed data about the cycling facilities people are satisfied with and the factors that influence how safe they feel.

Figure 69: Residents' Satisfaction with the Quality and Safety of Footpaths (2008-2014)



Source: Hastings District Council Public Voice Survey

The graph above shows that the majority of those surveyed were satisfied with the quality and safety of footpaths in both 2008 and 2014.

In 2008, 67% of those surveyed being 'fairly' or 'very satisfied'. By 2014 82% of those surveyed reported being fairly or very satisfied with the quality of footpaths in the District.

Again, reporting the results of future surveys will enable some trend information to develop over time in this respect.

Overall, the results for the State of the Environment in relation to Hastings' Transportation infrastructure are mixed.

Motor vehicle registrations are increasing and the number of motor vehicles per household is also increasing.

Use of more sustainable modes of transport to work such as public transport, cycling and walking was lower, overall, than for New Zealand as a whole on census day in 2001, 2006, and 2013. Of note, there were a higher proportion of people who travelled to work by bicycle in Hastings District compared to the national average in both 2006 and 2014.

The total number of crashes and casualties per 10,000 people for Hastings District blew out to more than 50% higher than its local authority peers and the New Zealand average. The worst year being 2005. On a positive note, the numbers of crashes and fatalities/serious injuries per 10,000 population since then have been decreasing, and by 2008 were trending close to the peer group and national average. Data was only available up until the end of 2009.

Residents' satisfaction with Council roads has improved at each successive survey since 1995. The majority of residents surveyed state that public transport is accessible, yet 88% had not used public transport at all in the previous 12 months.

The baseline data from the 2014 survey shows relatively high levels of satisfaction with walking and cycling facilities, but many residents' do not feel that riding a bike is safe. Residents' satisfaction with the quality and safety of footpaths is reasonably high.

Future surveys will enable some trend information to be identified over time in this respect and will help to uncover what is deterring people from using public and non-motorised forms of transport.

Responses

For Community

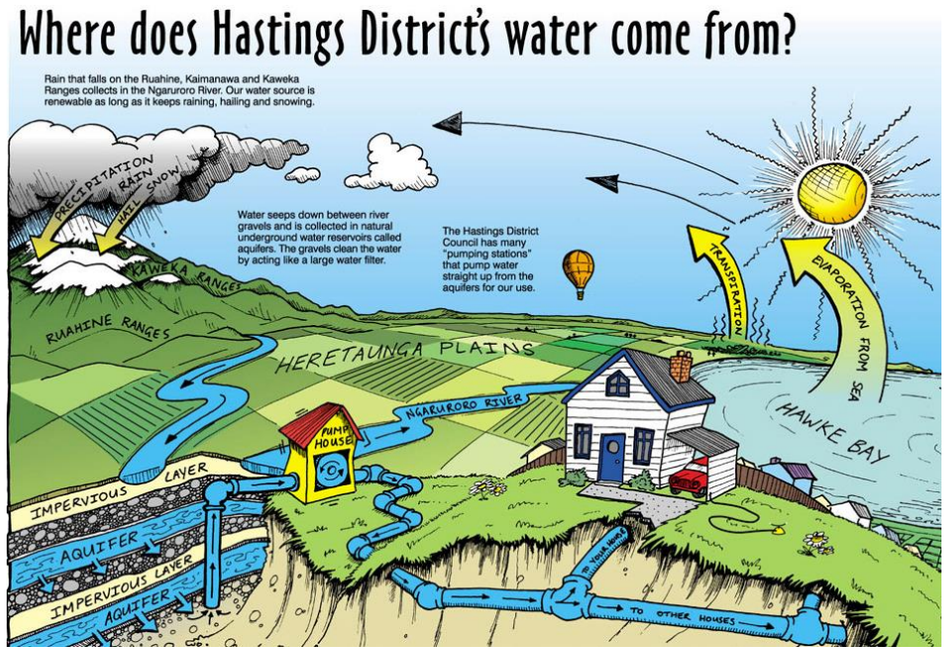
- Actively work to support public transport initiatives
- Take opportunities to walk or cycle to work, school and neighbouring amenities.

For Council

- Continue on-going publicity around healthy living and sustainable modes of transportation
- Encourage sustainable transport choices in new developments
- Continue to implement Hastings District Council's Walking and Cycling Strategies, including promoting walking and cycling to school and work
- In future, Council will survey residents about re recreational cycling what deters them from using public transport or non-motorised transport options.

Water Management

Water management refers to all aspects of providing freshwater for domestic, commercial and industrial activities within the District.



Source: Hastings District Council

The Heretaunga Plains unconfined aquifer is the main ground water resource for the Heretaunga Plains, Hastings and Napier communities, providing 85% of their water requirements[51]. The water drawn off the aquifer is used for public water supply, irrigation and industrial uses.

Hastings is lucky to have a good supply of fresh, clean water from its underground aquifers, but we should not take this for granted.

The Council sources its public water supply for the District from 11 water supply systems via 32 individual bores/wells, and two springs in the Waimarama area. Fluoride is currently added to the water in the Hastings, Havelock North and Flaxmere water supplies to aid dental health.

The two largest reservoirs at Havelock North each hold 10,000,000 litres of water. During the night, water from the bores/wells is pumped through the network to the 15 reservoirs in the district, and from there it is distributed via 497km of water mains to homes and businesses.

In addition, there are a number of smaller, privately-managed water supplies throughout the District (managed by schools, marae, local communities etc).

[51] Section 2.2.2.5 of the Hastings District Plan.

Indicators

The table below shows the indicators that are used to monitor water services in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR WATER MANAGEMENT

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected and sustained for future generations	Operative District Plan Section 15.1(Subdivision & Land Development) • Maintenance or enhancement of public health and safety. • Provision of a water supply of suitable quality and quantity to meet the needs of likely or potential land uses on the sites, including water for fire control and suppression. Proposed District Plan (2013) Section 30.1 (Subdivision and Land Development) • Maintenance of public health and safety • Provision of a water supply of suitable quality and quantity to meet the needs of likely or potential land uses on the sites, including water for fire control and suppression
WS1	Consented Water Takes Held by Council for Water Supply Purposes	Pressure	These indicators will enable Council to monitor trends around the security and quality of water services infrastructure, and the quality of drinking water for community consumption.	
WS2	Domestic Water Consumption	Pressure		
WS3	Commercial and Industrial Water Consumption	Pressure		
WS4	Public Health Water Quality Grading	State		
WS5	Compliance with Drinking Water Standards	State		
WS6	Residents' Satisfaction with the Water Supply	State		

Monitoring Information

Indicator WS1: Consented Water Takes Held by Council for Water Supply Purposes

Hastings District Council manages 11 separate water supplies comprising 32 individual bores. The majority of these are located on the Heretaunga Plains (their location is shown below).

Figure 70: Hastings Water Supply – Distribution of Bores[52]

Source: Google Maps

Hastings District Council holds 15 resource consents from Hawke's Bay Regional Council for water extraction. These are detailed in the table opposite.

Table 15: Hastings District Council Water Supply Consents

Supply	HBRC Consent Number	Consent Expiry Date	Maximum Peak Flow and Abstraction Rates	
			Litres per Second	m^3 in any 7-day Period
Hastings	WP120036T	31/05/2047	1,240	749,952
Brookvale Rd Bores	WP070080T and WP070080TA	31/05/2018	200	101,282
Napier Road Bores	WP050194T	31/05/2022	41	20,000
Haumoana and Te Awanga	WP050195Ta	31/05/2025	50	21,773
Clive	WP050195Ta and WP050191Ta	31/05/2025	50	17,310
Whirinaki Esk Bore	WP110126T	31/05/2040	49	23,794
Esk Vineyard Bore	WP110127T	31/05/2040	N/A	1,544
Waimarama	WP120016T	31/05/2008	20	5,180
Whakatu	WP050192Ta	31/05/2025	50	3,810
Omahu	WP010478T	31/05/2026	14	1000
Paki Paki	WP030368T	31/05/2023	23	1000
Waipatu	WP080486Ta	3	10	176
Waipataki	WP000084Ta	31/05/2020	2.5	910
			TOTAL	940,095

Source: Hastings District Council

[52] Note: the Waipatiki bore is also managed by Hastings District Council but is beyond the area shown in this figure.

Indicator WS2: Domestic Water Consumption

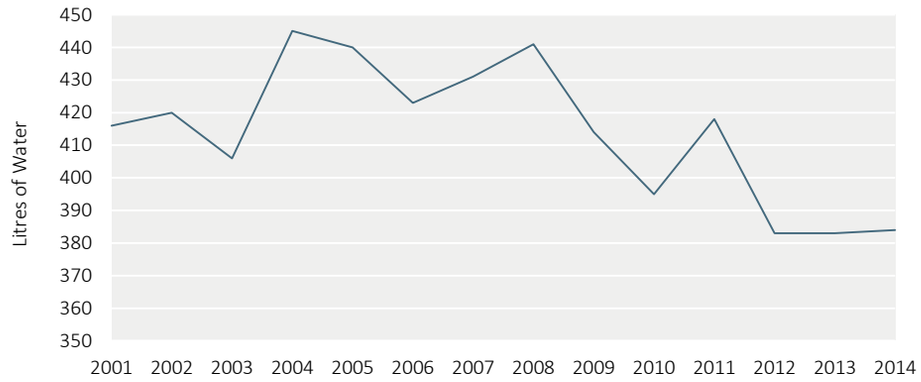
On the east coast of the North Island, water usage is directly linked to climate. Hence, in Hawke's Bay, water consumption is seasonal – summer consumption can almost double winter consumption, unlike west coast counterparts which have higher summer rainfall and may only vary 10-15%.

Awareness of water conservation methods and reducing leakages in the water infrastructure are important factors in the overall consumption of water for domestic purposes.

The graph below shows there has been some fluctuation over the period of 2001-2013.

Since 2008, consumption per capita (for Hastings, Havelock North and Flaxmere) has dropped due to the implementation of pressure reduction and improved zone management using highly accurate magnetic flow meters (magflows). However, it is not possible to tell if actual household consumption has decreased, or if the drop is result of technical improvements.

Figure 71: Hastings Water Supply – Domestic Water Usage



Source: Hastings District Council

Demand is highly dependent on weather and rainfall. For example, Whirinaki and Esk which each have populations of around 700, experience a five-fold increase in demand for water over summer compared to winter. This is quite common for many of the smaller supply areas.

From this, it is clear residents value the ability to water their gardens and maintain a green and colourful surrounding during the summer months.

Since the last report, HDC has begun to retreat from one of the primary bores in Flaxmere (Portsmouth Road). This bore provided nearly 80% of Flaxmere's water supply, but was found to have stream depletion effects on the Irongate Stream. The Frimley Bore field in Lyndhurst Road is being developed to replace this source.

Allocation of irrigation water by Hawke's Bay Regional Council at the edges of the aquifer have resulted in a number of private bores drying up, along with septic tank waste potentially contaminating the private bores when they do operate. The Bridge Pa supply received Ministry of Health Funding under the CAP scheme in 2009 allowing town water supply to be extended to the Bridge Pa community. The Paki Paki community has suffered from the same issues and the Ministry of Health announced in August 2015 that funding has been granted (80%) to extend the town supply to them also.

The Haumoana and Te Awanga supply has ongoing issues with high Iron and Manganese in the source water with a new source being identified in the LTP.

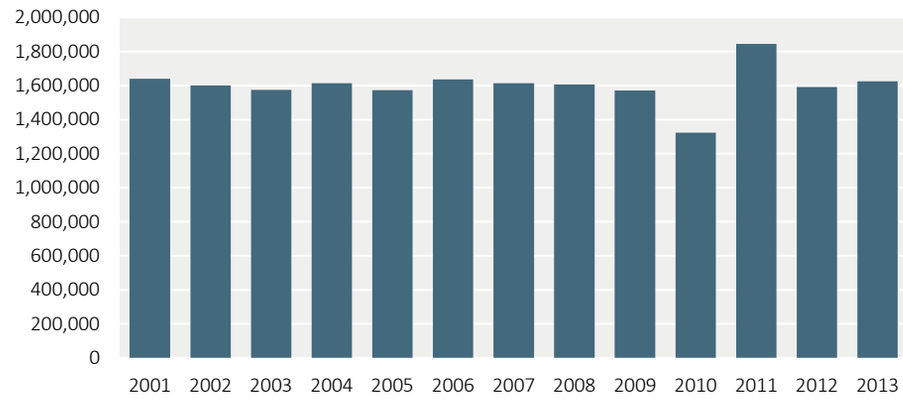
It is currently very difficult to compare consumption rates with other local authority areas, as no one singular method of measuring consumption is applied across the country and comparison may therefore be misleading. For instance, areas that utilise water metering often show deceptively lower rates of water consumption per capita – however, as the figure only show usage beyond the property boundary and generally do

not include leakage and many other unmetered uses which are normally included, as is the case for Hastings[53].

Indicator WS3: Commercial and Industrial Water Consumption

Commercial and industrial water consumption from public supplies has remained relatively stable, hovering around 1,600,000 cubic litres per year over the period 2001 to 2014.

Figure 72: Commercial and Industrial Water Consumption in Hastings District



Source: Hastings District Council

It is important to note that these figures do not include many of the large industries such as Watties and McCains who obtain their own processing water from private bores. These industries connect to Council supply to meet domestic needs, such as drinking water for staff.

As a result of the above factors, it is not possible to obtain a complete picture of industrial and commercial water consumption. Future reporting may benefit from retrieving and incorporating Hawke's Bay Regional Council water abstraction consents data for large commercial or industrial users in order to identify commercial and industrial water consumption trends.

Indicator WS4: Public Health Water Quality Grading

Currently, 71 community supplies operate in Hastings District serving various size populations. Of these, 11 are community supplies managed by Hastings District Council, comprising 15 distribution zones, and 17 treatment plants. The remaining supplies are privately owned and managed.

All of the Hastings District Councils supplies are managed to comply with the requirements of the Health Act 1956 which include the Health (Drinking Water) Amendment Act 2007. Under the Amendment Act, all of the councils public supplies will be required to develop "Water Safety Plans" (WSP) and operate in accordance with them. The WSP's are largely based on the New Zealand Drinking Water Standards 2005 (2008 Revision)

Indicator WS5: Compliance with Drinking Water Standards

Historically, community drinking-water supplies in New Zealand voluntarily chose to comply with either the 2000 or 2005 New Zealand Drinking-Water Standards. However the Health (Drinking Water) Amendment Act 2007, now requires supplies to "take all practical steps" to provide safe drinking water. Meeting the requirements of the NZ Drinking Water Standards is seen as a means of demonstrating compliance with the Acts obligations.

The Drinking Water Standards specify water monitoring (i.e. taking samples for testing) and other requirements for supplies, both at the treatment plant and within the distribution zone itself.

Compliance with the Standards is not based on the results of a single monitoring sample, but is an overall measure of whether the Standard's requirements are met for a full 12 month period. The frequency of samples taken depends on the size of the supply, and what barriers to contamination are in place.

[53] The figures on water usage for Hastings District include fire hydrant testing, routine system flushing, tanker filling and fire usage, some unmetered parks and garden usage, system leakage, and unmetered industrial and commercial usage.

All of the HDC's water supplies are managed to comply with the Health Act and have required WSP's in place where required. Where possible the default means of demonstrating compliance is by meating the NZ Drinking Water Standards 2005 (2008 Revision). However the Waimarama, Waipatiki and Esk/Whirinaki water supplies differ slightly from the standards as complying fully with them provides no real benefit.

The Waimarama and Esk/Whirinaki treatment plants all failed to comply with the Standards for protozoa. This is due to the Filter & UV technology employed at those plants. These plants were historical assessed against the 2000 drinking water standards which did not recognise UV treatment (a relatively new technology at the time). The 2005 Standards now recognise Filter and UV systems as an effective treatment method, however it's not cost effective for these supplies to install brand new "fully compliant" systems, when the existing systems can be retrofitted to achieve the same results. Unfortunately retrofitting old technology is not recognised by the standards, and these supplies are therefore deemed non-compliant for protozoa. Routine testing within the reticulation show that the treatment systems are adequate. It is proposed that when the equipment is due for renewal, fully compliant systems will be installed.

The Waipatiki beach water source is plagued with poor water quality. The source water has elevated levels of dissolved methane, low dissolved oxygen levels and contains H_2S which makes conventional treatment very difficult. Chlorine is used to dissipate the H_2S odour, however attempts to maintaining chlorine residuals within the supply results in adverse chemical reactions.

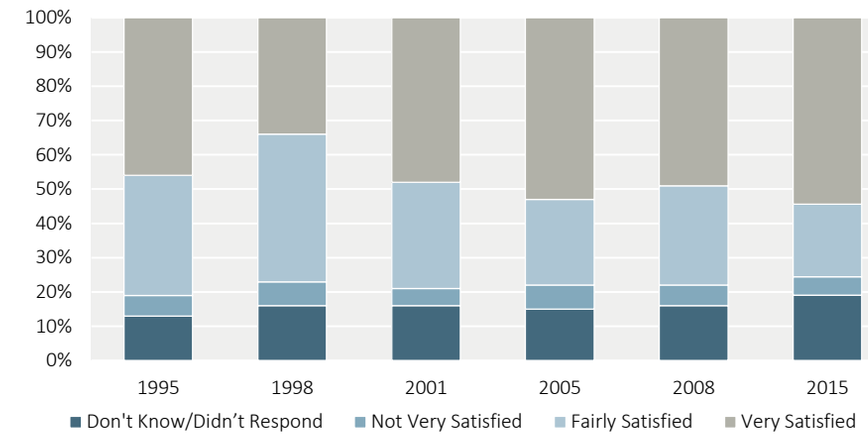
It is suspected that runoff from rural areas and some septic tank disposal fields may be contributing to intermittent contamination events within the supply.

Indicator WS6: Residents' Satisfaction with the Water Supply

Resident's satisfaction with their water supply gives some insight into the state of water for domestic supply. Approximately 79% of residents were provided with piped water supply in 2008, up from 75% in 2005.

The following graph shows there has been little change in level of satisfaction since 1995, with those 'fairly' or 'very satisfied' remaining stable at between 77% and 81%.

Figure 73: Residents Rating of Drinking Water Quality 1995-2008



Source: Hastings District Council Communitrak Survey

Hastings District Council currently manages 11 community supplies in the District, comprising 14 distribution zones, and 17 treatment plants. There are a further 60 supplies that are privately owned and managed.

Water consumption has been increasing steadily with population and industrial growth over the years. However, in the period 2009 to 2014, domestic water consumption dropped, and industrial/commercial consumption remained fairly stable.

Satisfaction with the water supply in the District is fairly high, particularly for those residents provided with a reticulated supply.

Responses

For Community

- By taking a few simple steps to reduce your water usage now, you can help ensure future generations enjoy the same access to good quality water, such as turning off the tap, fixing leaks, and using water saving devices on showers, washing machines and toilets.

For Council

- Demand management, and water conservation measures are a strong focus for Council into the future, including a public education campaign, an active leak detection program, and implementation of zone management and pressure reduction across the main supplies (Hastings, Havelock North and Flaxmere)
- Council will continue to work towards improving and maintaining the quality of drinking water through planned upgrades to water supply infrastructure as required.

Wastewater Treatment

Wastewater is the term used to describe a combination of domestic sewage (from showers, baths, toilets and kitchens) and trade wastes (liquid wastes produced by many industrial and commercial processes).

The provision of a wastewater system (sewerage scheme) is fundamentally important in terms of ensuring public and environmental health and well-being. The Wastewater System collects, treats and manages wastewater disposal from homes, work places, businesses and industries in urban areas. The HDC Wastewater System's ability to accept industrial wastewater (trade waste) is critical for the social and economic well-being of the District and Region.

Without wastewater schemes, there would be significant environmental and human health issues, especially within rapid growing and populated urban areas. In today's modern urban environment, wastewater schemes are developed in conjunction with the statutory processes of the RMA to ensure that environmental effects are avoided, remedied or mitigated to an acceptable level.

The existing HDC Wastewater Scheme is made up of a network of pipes and pumps which collects the wastewater from Hastings, Havelock North, Flaxmere, Whakatu and Clive and conveys the wastewater to HDC's East Clive Wastewater Treatment Plant (WWTP) which after treatment discharges the combined wastewater streams from the two separate networks (as discussed below) through the 2,750m offshore ocean outfall into the marine receiving environment of Hawke's Bay.

The wastewater network comprises two separate networks:

1) A domestic and non-separable wastewater system that primarily collects domestic wastewater and a small amount of trade waste from industries that are not able to connect to the separate industrial trade waste system. At the WWTP this wastewater is screened and treated in Biological Tricking Filters (BTFs). The BTFs are used to grow bacteria which biologically treat the wastewater to the required standard

2) A separated industrial wastewater system that collects industrial trade wastes. Trade wastes are treated on-site at individual industrial premises to comply with the Water Services Bylaw requirements, prior to discharge into the separated industrial wastewater system. At the WWTP the trade wastes are screened through a 1mm slotted screen prior to mixing with the treated domestic and non-separable wastewater stream.

After passing through a grit removal unit the combined wastewater is then discharged through the offshore ocean outfall.

There is also a small wastewater system in Waipatiki this was established in the mid-2000s in response to environmental concerns around water quality in the local catchment.

Households in rural areas rely on on-site wastewater treatment systems to treat and dispose of household wastewater. Properly installed and maintained, this is a hygienic, economical and environmentally safe way of disposing of household wastewater.

Council has looked at the feasibility of community schemes for Waimarama and Te Awanga/Haumoana and, in both locations, a scheme is feasible at reasonable cost. However, at this time there are no environmental or public health imperatives that necessitate this investment.

The Council's Engineering Code of Practice also stipulates the manner in which new Wastewater schemes should be designed as part of land use development.

This section covers the Wastewater Services provided by the Council for the urban environment and certain communities around the District.

Indicators

The table below shows the indicators that are used to monitor wastewater treatment in the District. These indicators are also used to inform other Council performance monitoring programmes.

INDICATORS FOR WASTEWATER TREATMENT AND DISPOSAL

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected and sustained for future generations	Operative District Plan Section 15.1 (Subdivision & Land Development) • Maintenance of public health and safety. • Provision of facilities for wastewater disposal and stormwater disposal for new sites. Proposed District Plan (2013) Section 30.1 (Subdivision & Land Development) • Maintenance of public health and safety. • Provision of facilities for wastewater disposal and stormwater disposal for new sites.
WW1	Consented Wastewater Discharges held by Council	Pressure	These indicators will enable Council to monitor trends around the security and integrity of delivery of the District's community wastewater treatment and disposal systems, and the effects of wastewater disposal on the natural environment.	
WW2	Compliance with Consent Conditions for Wastewater Discharges	Response		
WW3	Volume of Wastewater Produced	Pressure		
WW4	Total Number of complaints received by the Council about any of the flowing: a) Sewage odour b) Wastewater system faults c) Wastewater system blockages d) The Council's response to issues with its Wastewater system	State		
TW1	Amount of Trade Waste Discharged through the Separated Trade Waste Conveyance System	Pressure	These indicators will enable Council to monitor trends around the safety and efficiency of trade waste disposal in the District.	
TW2	Number of Industries Connected to the Separated Trade Waste Conveyance System	Pressure		
TW3	Number of warning notices issued	Pressure		

Monitoring Information

Indicator WW1: Consented Wastewater Discharges Held by Council

Hastings District Council holds two main resource consents granted by the Hawke's Bay Regional Council (HBRC) for the discharge of wastewater from community Wastewater schemes:

1) East Clive Wastewater Treatment Plant – the consent (CD130214W) is to discharge final combined wastewater into Hawke Bay at East Clive via the long offshore outfall

   - Consent granted on the 25th June 2014 with a consent expiry on 31 May 2049 (35 year term); and
   - The consented maximum discharge rate is for 2800 litres per second.

   The consent was granted following an extensive consenting process that involved technical, environmental and public health assessments, consultation with the community and Iwi and finally a public submission process.

   The consent is for a 35 year term, with the requirement for nine yearly reviews. The reviews will consider system performance and technological advancement and will make recommendations about possible treatment improvements.

2) Waipatiki Wastewater Scheme – the consent (DP050397L) is for discharge of wastewater to land

   - Granted in 2005 and will expire on 31 May 2025 (20 year term);
   - Maximum rate of application of effluent of 5mm/m2/day; and
   - Maximum volume of discharge of 76m³ per day (532m³ over a 7 day period) during Stage 1, and 172m³ per day (1204m³ over a 7 day period) at completion of Stage 2.

   The Waipatiki Wastewater Scheme has been designed to cater for the established properties within the Waipatiki coastal settlement, as well as the 29-lot subdivision granted in 2003.

Approximately 90% of properties designed for connection to the scheme have been connected, with only half a dozen properties still electing to continue with on-site septic tanks. There is provision for a second stage development when either the 76th connection occurs or when the discharge volume reaches 76m3 per day, whichever occurs first.

Indicator WW2: Compliance with Consent Conditions for Wastewater Discharges

East Clive Wastewater Treatment Plant

In accordance with the new long term (35year) resource consent, Council undertakes quarterly monitoring and sampling and prepares an Annual Compliance Report. The 2014/15 Compliance Reporting indicates that Council is generally complying with conditions on its resource consents.

Section 4 of the 2014/15 Compliance Reporting details the Final Combined Wastewater (FCW) Quality & Quantity Monitoring. Trends against this new framework will be developed over time. In general performance results between the old and the new consent frameworks are similar.

Waipatiki Wastewater Scheme

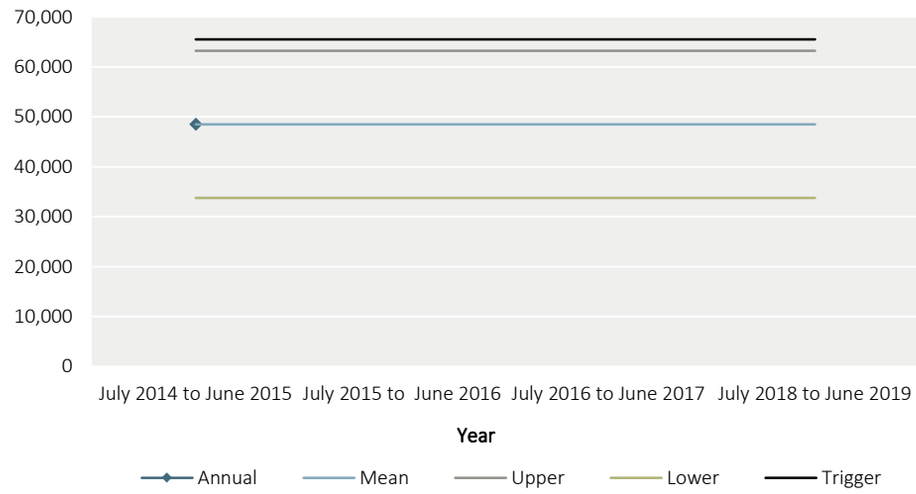
The HBRC statement of compliance for the Waipatiki Wastewater Scheme results show that the scheme has met technical compliance in 20013/14 and 2014/15 and has had some environmental non-compliance. Environmental non-compliance relates to the Nitrate limit being exceeded.

Indicator WW3: Volume of Wastewater Produced

Waste Water Treatment Plant East Clive

The following graph shows the average daily volume of wastewater based on the marine outfall pump station flow records from the East Clive Wastewater Treatment Plant included in the 2014/15 Compliance Reporting. This is baseline data and flow trends against the new consent conditions framework will be developed over time.

Figure 74: Average Daily Flow



Source: Hastings District Council 2014/15 Compliance Reporting Section 4.3

The annual average flow is lower than the average of the previous consent. The flows between the different quarters reflect the difference between various seasons of the different industries within the wastewater network. The highest median flow and the maximum flow recorded were in Quarters 1 and 2 which is the fruit and vegetable processing season[54]. The trade waste form these industries form a large proportion of the industrial flow during these periods.

Waipatiki Wastewater Scheme

There have been no Waipatiki Wastewater Scheme volume exceedances.

[54] Hastings District Council 2014/15 Compliance Reporting Section 4.4

Indicator WW4: Satisfaction with the Wastewater System measure based on:

The number of complaints about the wastewater system is an indicator of residents' satisfaction with the water supply.

Wastewater complaints received by the Council are about any of the flowing:

a) Sewage odour

b) Wastewater system faults

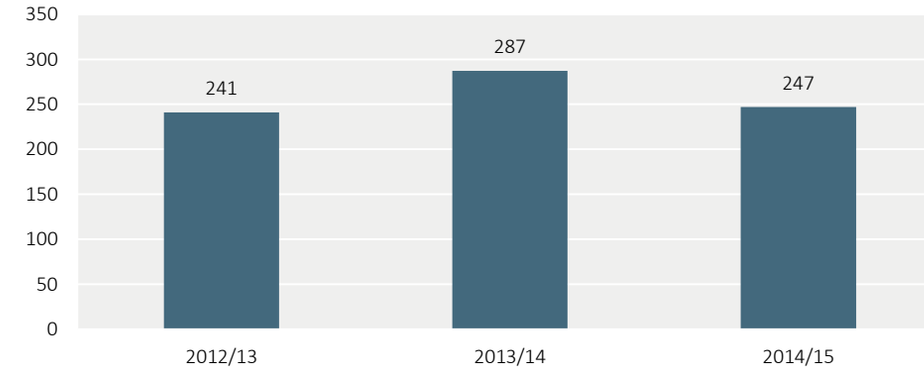
c) Wastewater system blockages

d) The Council's response to issues with its sewerage system.

Expressed per 1000 connections to the Council's Wastewater system, the satisfaction measure is 11.86 complaints per 1000 customers.

The graph below shows the total number of complaints per annum.

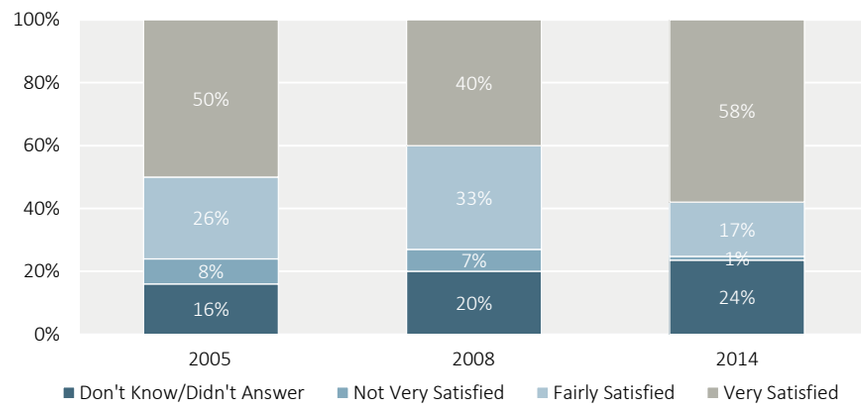
Figure 75: Total number of complaints received



Source: Hastings District Council 2014/15 Compliance Reporting Section 4.3

The Public Voice survey included a question asking residents' about their satisfaction with the wastewater system. This has continued to improved, with only 1% reporting they were 'not very satisfied'. This is compared with 7% in 2008.

Figure 76: Residents' Satisfaction with Wastewater System

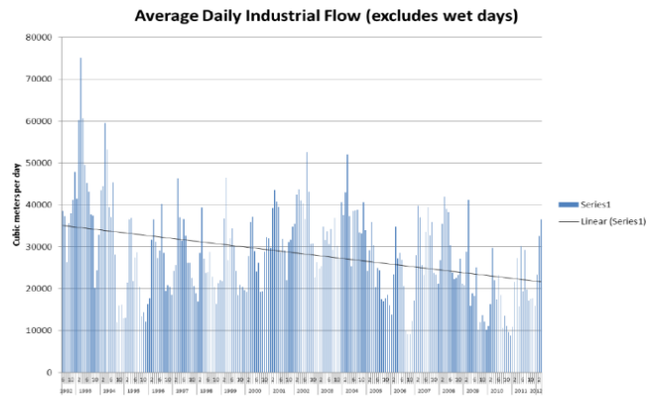


Source: Communitrak and Public Voice Surveys

Indicator TW1: Amount of Trade Waste Discharged through the Separated Trade Waste Conveyance System

The graph below highlights the average annual trade waste discharge volumes. There has been a general downward trend in trade waste volumes:

Figure 77: Trade Waste Discharge Trend



Source: Hastings District Council Consent AEE Support Document-Flows and Loads

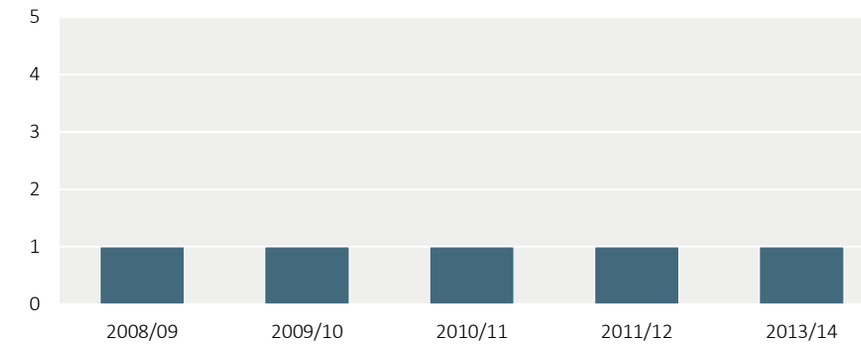
Indicator TW2: Number of Industries Connected to the Separated Trade Waste Conveyance System

There are 28 industries connected to the separated trade waste system. This is compared with 22 at the time of the last report.

Indicator TW3: Number of warning notices issued

The graph below summarises the number of trade waste warning notices issued:

Figure 78: Number of warning notices issued



Source: Hastings District Council Consent Trade Waste Records

The graph shows there have been very few issues with trade waste disposal non-compliance.

There has been an improvement in the public satisfaction with the wastewater system, and a reduced number of complaints.

There has been a general downward trend in the volume of tradewaste discharged to the system. The number of industries connected to the separate tradewaste system, and the number of warning notices has remained consistently low.

Responses

For Community

- Do not pour chemicals, paints or thinners (or the like) down any drain
- For the wider community, notify Council compliance staff if you observe unsafe trade waste disposal practices
- For users of trade waste services, ensure compliance with trade waste guidelines so as to minimise the likelihood of non-complying discharges and resulting potential for adverse environmental effects.

For Council

- Continue to look at opportunities to make improvements to all wastewater infrastructure, and to service future growth
- Continue to monitor and manage trade waste discharges under the Water Services Bylaw
- Continue to carry out monitor sampling and reporting as required by resource consent conditions
- Look at new technologies to assist in meeting conditions of consent/permitted activity standards for trade waste
- Public education is being used effectively to improve compliance. The Council has good information on best practice and responsible methods for trade waste disposal. A ‘guide’ document is being prepared for the Council’s website
- Encourage new industries to connect to the separated trade waste system
- Record discharge rates through the separated trade waste system
- Formally record any breaches of trade waste consent observed, including those that did not result in the issue of official non-compliance notices, to obtain a more complete picture of industrial trade waste disposal in the District
- Continue to investigate new technologies that would assist industries to meet their conditions of consent or the permitted activity standards.

Energy Use

Monitoring energy use can result in clear information about our environment in relation to consumption, standard of living and sustainability.

It is expected that the information available to monitor energy use will improve over time. Information is available at a general level on electricity usage for the Hawke's Bay region. There is little information at a District level at present.

Future research could be directed at Councils own use of fossil fuels, electricity usage for its offices, and sustainable energy use projects adopted by Council.

It would be useful and appropriate to include climate change indicators in any future State of the Environment Report, where possible. At this stage, data on climate change at a Hastings District scale is not readily available. Climate change is currently monitored at national level by the Ministry for the Environment as part of State of the Environment reporting for New Zealand as a whole.

Indicators

The table below shows the indicators that are used to monitor energy use in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR ENERGY USE

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected and sustained for future generations	NIL
E1	Electricity Demand	Pressure	These indicators will provide information on trends in energy consumption and uptake of more sustainable energy sources in order to better protect the environment for future generations.	
E2	Sustainable Energy Use Projects	Response		

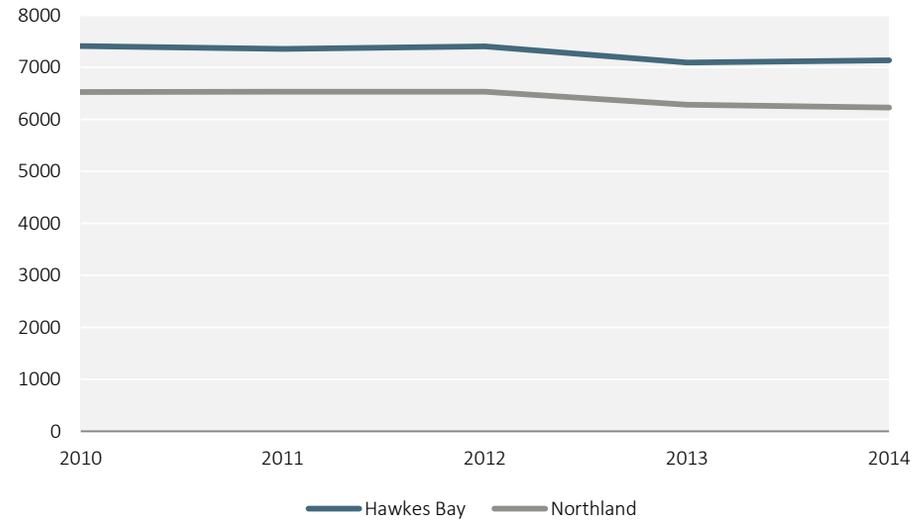
Monitoring Information

Indicator E1: Electricity Consumption

The previous State of the Environment Report monitored annual maximum electricity demand for the Hawke's Bay Region. However, difficulty in obtaining this data for 2009-2014 meant that this indicator had to be altered. Instead, data has been collected showing annual residential electricity consumption for Hawke's Bay region. This data was available between 2010 and 2014 and at the regional level only, so is not specific to

Hastings District. This is compared with Northland Region, which is the only region with a similar population to Hawke's Bay.

Figure 79: Annual Residential Electricity Consumption Hawke's Bay Region



Source: Electricity Market Information

Annual residential electricity consumption has been steady in Hawke's Bay Region between 2010 and 2014. It has been consistently higher than Northland, which has a similar population, but it is difficult to drawn any meaningful conclusions from this comparison due to the number of factors, such as climate, that influence electricity consumption. Furthermore, the graph above does not take into account industrial and commercial electricity consumption. Future reporting would benefit from more complete data.

Indicator E2: Sustainable Energy Use Projects

Hawke's Bay Regional Council has a 'Heatsmart' programme which assists residents with the cost of fitting ceiling and underfloor insulation and replacing non-complaint fires. Installing underfloor and ceiling insulation makes heating homes by energy efficient. At the end of the 2014/15 financial year, HBRC had provided insulation loans for 2, 151 homes. In addition to this, HBRC provided loans and grants to replace non-complaint fires with alternative heating sources. While a shift towards electric forms of heating, such as heat pumps, will likely drive up energy consumption, this is considered to be off-set by the benefits to air quality.

It is anecdotally evident that more public and corporate organisations are approaching their businesses from an energy efficiency and sustainability perspective. However, there is currently no definitive way of monitoring this.

Residential electricity consumption for the Hawke's Bay region has been relatively steady between 2010 and 2014. Data at a district level is not currently available.

Future reporting would benefit from more complete data and comparison with other similar regions, and New Zealand as a whole.

Future reporting would benefit from monitoring uptake of more sustainable/renewable forms of energy in the District.

Responses

For Community

- Reduce energy wastage through the prudent use of electricity at home and in the workplace. Turn surplus lights off, switch off appliances at the wall, hang washing on the line to avoid use of clothes driers
- When purchasing appliances, consider those with higher energy efficiency ratings.

For Council

- Support education initiatives around reducing energy consumption
- Encourage uptake of energy efficiency measures such as retro-fitting older homes with better insulation, and encouraging uptake of more sustainable forms of heating in the home
- Begin to monitor other types of sustainable energy use to build a picture for the District, such as the uptake of solar power and wind generation
- Continue to report on Council's own energy consumption and progress towards energy efficiency.

Hazard Management

Hazard Management

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Natural Hazards				
NH1	Natural hazard events			Hastings District experiences a range of natural hazards related to its climate including major storm and flood events, coastal erosion and inundation and rural wildfires. While the number of warnings and rural wildfires have trended downwards, it is important to acknowledge that the number of natural hazard events is largely random.
NH2	Area of land identified as 'Natural Hazards Resource Management Unit (RMU)'			1.6% of the District's land area is identified as subject to the Natural Hazards Resource Management Unit (RMU). It is expected that this may change as a result of the District Plan review as natural hazards which are already managed under other legislation, such as the Building Act and the Hawke's Bay Regional Coastal Environment Plan, have been removed so as to avoid duplication.
NH3	Number of consents for subdivision/land development within the Natural Hazards RMU			Resource consents affecting Natural Hazards RMU have remained relatively steady. With the exception of a peak in 2010, there were 8-16 for land use consents and 1-4 for subdivision consents.
NH4	Monitoring and reporting on building consents granted within Natural Hazards RMUs	-		The number of building consents for both habitable and non-habitable buildings in Natural Hazards RMUs fluctuated between 32-51 per year in 2009-2014
Hazardous Substances				
HS1	Number of consents involving employment of the hazardous facility screening procedure			4 resource consents between 2004 and 2008 were required as a result of applying the hazardous facility screening procedure and none between 2009 and 2014.
HS2	Number of reported incidents and callouts to hazardous substances spills			Spills involving hazardous substances have dropped. However, this could be the result of changes as to who responds to these types of incidents.

Section 31 of the RMA gives Hastings District Council the function of managing and controlling the effects of the use, development, or protection of land. Of particular relevance to the state of the environment in respect of hazards, this includes for the purpose of:

- The avoidance or mitigation of natural hazards; and
- The prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances.

The Hastings District is subject to a variety of hazards. These hazards include natural events such as earthquakes and flooding, to events involving hazardous substances originating from our industrial and horticultural activities.

Natural Hazards

The Hastings District has the potential to suffer effects from several different natural hazard types. This includes earthquakes, coastal erosion, flooding, droughts, volcanic activity and tsunamis.

Whilst natural hazard events are largely the result of natural processes and 'Acts of God', their impacts on the environment and severity are influenced by land use patterns, development and human activity.

The Hastings District Council aims to avoid hazards through District Plan provisions where appropriate, and the Building Act. This includes the avoidance of subdivision on land subject to natural hazards or potential natural hazards, and the avoidance of subdivision where it could accelerate or worsen the risk of natural hazards.

Indicators

The table below shows the indicators that are used to monitor natural hazards in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

Photo: The Heretaunga Plains in flood in 1935
Breaches of the stopbanking system were common in the 1930's due to the ground uplift and settlement effects of the 1931 earthquake which reduced river channel capacity, and the severe ground shaking which weakened the stopbank structure in places
Source: Hawke's Bay Regional Council

INDICATORS FOR NATURAL HAZARDS

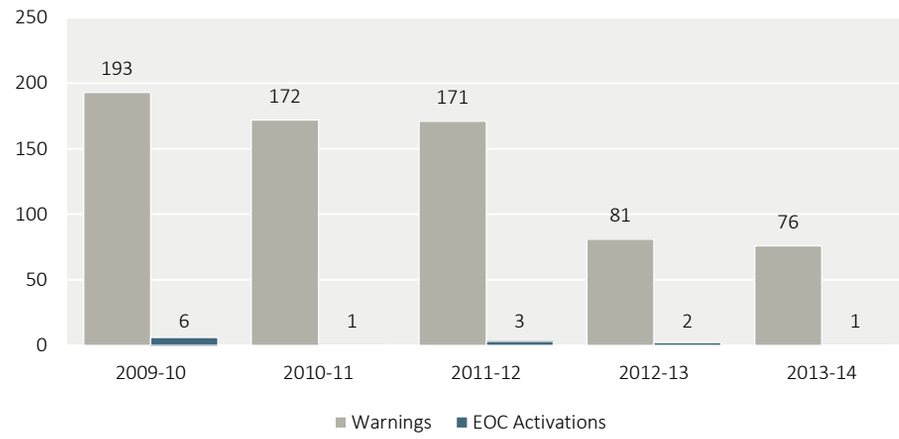
INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected, and sustained for future generations. • Safe and secure communities. • A lifetime of good health and wellbeing.	Operative District Plan Section 12.3 (Natural Hazards RMU): • Avoidance or mitigation or minimisation of the potential effects of natural hazards on land uses. • Promotion of public awareness of the risk from natural hazards. • Reduction of risks to people and the community from natural hazards. Section 15.1.6 (Subdivision & Land Development): • Avoidance of subdivision on land subject to natural hazards or potential natural hazards. • Avoidance of subdivision where it could accelerate or worsen the risk of natural hazards. • Maintenance or enhancement of public health and safety. Proposed District Plan (2013) Section 15.1 (Natural Hazards) • New Residential Zones are located outside of avoidable hazard risk areas. Where building development is already within a hazard area, the reasonable risk of the hazard is reduced and/or mitigated by minimum floor levels, buffers, setbacks or other building standards. • Reduction in risks to people and the community from natural hazards has been achieved by the avoidance of hazards where they may pose a significant risk to human life, property and infrastructure in proposed new development areas and by mitigation for existing development areas. Section 30.1 (Subdivision and Land Development) • Avoidance of subdivision on land that remains subject to natural hazards or potential natural hazards. • Avoidance of subdivision where it could accelerate or worsen the risk of natural hazards. • Maintenance or enhancement of public health and safety.
NH1	Natural Hazard Events	State	This indicator will enable Council to monitor trends around the type and nature of natural hazards occurring in the Hastings District, and their severity. Information on natural hazard events (such as significant flood events, storm surge events, rural fire events, and coastal erosion trends) will also, over a long timeframe, contribute to an understanding of the effects of climate change in the District.	
NH2	Area of Land Identified as 'Natural Hazards Resource Management Unit (RMU)'	State and Response	This indicator indicates the state of the environment in terms of risk/vulnerability to natural hazards.	
NH3	Number of Consents for Subdivision/Land Development within the Natural Hazards RMU	Pressure	This indicator will indicate any trends toward, and pressure for, development of land identified as subject to natural hazards.	
NH4	Building consents granted within Natural Hazards RMUs	Pressure	Monitoring the number of building consents granted within areas identified in the District Plan as Natural Hazard Resource Management Units enables pressure on these areas to be identified.	

Monitoring Information

Indicator NH1: Natural Hazard Events

The following indicator provides a snapshot of recent natural hazard events related to weather and climate that have impacted on communities (such as major storm and flood events, coastal erosion and inundation events, and rural wildfires).

Figure 80: Civil Defence Warnings EOC Activations



Source: Hastings District Council

Whilst natural hazard events are not related to human activity, they do contribute to an understanding of how the presence of people and associated development can exacerbate their effects on people, property and the natural environment.

Ongoing recording of such natural hazard events may also, in the future, contribute to an understanding of the effects of climate change on the District over time (temperature, rainfall and weather patterns, sea level rise).

Major Storm and Flood Events

Hawke's Bay is often affected by flooding – on average, a severe storm or flood happens every 10 years.

When floods threaten communities they become a hazard. In Hawke's Bay, stopbanks have been built alongside many of the rivers to hold in the extra flood water.

Photo: Ngaruroro River in Flood, Waitangi Railway Bridge – August 2003
Source: Hawke’s Bay Regional Council

The table below shows the numerous major storms resulting in severe flooding in Hawke’s Bay since 1867.

Table 16: Major Storm and Flooding Events Recorded in Hawke's Bay (to 2011)

Year	Date	Event
1867	25 May-4 Jun	A large flood in Hawke's Bay, which according to the local Maori, there was no flood to compare with it in the previous forty years. Rainfall in Napier was 380 mm in four days. The Tukituki, Ngaruroro and Tutaekuri all overflowed their banks at several locations, causing extensive flooding.
1893	4 Dec	Heavy rain cause flooding in the Waipawa River, with the highest levels ever known. The Tutaekuri and Ngaruroro Rivers broke their banks, resulting in widespread damage.
1897	17 Apr	356 mm of rain fell in Napier over four days. The Ngaruroro River broke its banks between Roy's Hill and Fernhill and menaced Hastings. It also broke its banks south of Roy's Hill and flowed along a very old course. The Tutaekuri River broke its banks and joined with floodwaters from the Ngaruroro River to flood Clive and Napier.
1917	13 Jun	Flooding estimated to be bigger than that of 1897 and nearly as bad as the 1867 flood, caused widespread damage in Napier. 187mm fell in 36 hours. At Morere, 522mm fell in four days, of which 319mm fell in 24 hours.
1924	11-12 Mar	Rainfall at Rissington was 510mm in 10 hours with 230mm falling in 2.75 hours. At Eskdale, 419mm was recorded in nine hours.
1936	1 Feb	A cyclonic storm resulted in extensive flooding throughout Hawke's Bay. In Napier 101mm fell in 24 hours.
1938	23-25 Apr	Esk Valley Floods. Severe flooding was widespread after three days of heavy rain, with exceptional falls in some areas. In three days, 610mm fell at Tutira, and a staggering 1,000mm at Puketitiri (with 390mm in one day).
1941	4 May	Very heavy rain fell on central and southern Hawke's Bay. At Porangahau 406mm fell in 24 hours, and the Porangahau River rose 14.3m above normal causing extensive flooding.
1948	13-14 May	In the Wairoa River catchment 307mm fell in three days at Onepoto, and 260mm at Tuai in the same period. The Wairoa River rose to a record height and flooded buildings in the Wairoa township.
1953	27-28 Jan	Exceptionally heavy rainfall over the Wanstead, Elsthorpe and Maraetotara area. In the Mangarouhi Valley 349mm was registered in 24 hours, with the bulk of the fall occurring over six hours.
1974	15 Jun	Flooding in Napier from 157mm of rain in 24 hours.
1980	28 Dec	Rainfall at Whanawhana was recorded at 157mm in 48 hours. The Ngaruroro River breached the stopbank at Twyford resulting in serious flooding.
1988	7-10 Mar	Cyclone Bola was the most significant event in New Zealand since Cyclone Alison in the South Island in 1975. Bola caused considerable damage in the Gisborne and Wairoa districts. The highest total rainfall for the three day period was 635mm recorded at Pukeorapa.
1997	2-3 Jun	Wairoa District declared a Civil Defence Emergency at 1900, terminated at 2100 next day. About 166 people evacuated at Nuhaka after flooding and power failure associated with storm.
2001	9 Dec	A chain of thunderstorms formed up the eastern coast of New Zealand, which resulted in downpours in Hawke's Bay. In Napier and Hastings, 50mm of rain fell in the hour before noon – close to the average for the entire month. It caused millions of dollars of damage from water and surface flooding and damaging some roofs and shop stock. It was cited as a 1/100-year rainfall event for Napier and Hastings city areas.
2002	10 Jan	An electrical storm formed near Waipukurau in the evening, travelled north and resulted in 77mm of rain in 90 minutes in Hastings and 70mm in Napier. The storm turned streets into rivers, damaged footpaths and properties, caused power cuts and flooded shops as stormwater systems were unable to cope with the second 1/100 year downpour in a month.
2004	15 Feb	Southern Hawke's Bay was hit with southerly winds and heavy rain. In 24 hours starting from around noon on Sunday, 15,228.5 mm fell at Shag Rock, and 197 mm fell at Wallingford. The Tukituki River reached a 5-year level. Surface flooding occurred in Otane, Waipawa, Waipukurau, and Takapau. Porangahau area was worst hit, with roads, the cemetery, businesses and houses flooded, and around 6 families evacuated.
2004	18 Oct	A thunderstorm dumped several days' worth of rain on Napier in just a few hours – described as a 'rainbomb' producing a 1/50 year event – the rain quickly filled up drains, and then roads. However, the rain was so intense (up to 180mm of rain recorded in a few hours in the epi-centre of Tamatea/Greenmeadows) the water then also flooded numerous properties, with 8 homes being flooded and firms in the Onekawa industrial area estimating losses in the millions.
2007	17 Jul	Several houses in Maraekakaho were evacuated. Army unimogs evacuated 200 students and staff marooned at Puketapu School. Maraekakaho residents called it the worst flooding in 50 years.
2009	5 Oct	Heavy snow fell on the Napier Taupo Road closing the road and trapping over 100 people. The local 4WD Club and NZ Defence assisted police to ferry people to safety.
2011	27 Apr	Coastal flooding event affecting Haumoana, Te Awanga, Clifton and Waimarama when a local rain event flooded properties and closed roads. 9 people at Waimarama and the Te Awanga Motor Camp were evacuated and 6 homes were flooded.

Source: Hawke's Bay Civil Defence Emergency Management Group website and Hastings District Council Records

Coastal Erosion and Inundation

Coastal erosion is the removal of material at the coast causing the shoreline to retreat landward. The processes include not only the work of the sea, but also that of the wind, migrating river mouths and tidal inlets, coastal landslides and tectonics. Coastal erosion can also be caused, or exacerbated, by man-made structures placed in the coastal environment, which interfere with natural coastal processes.

Coastal inundation is the flooding of low-lying coastal areas by seawater. This occurs when storm surges or heavy swells, often coinciding with high tides, overtop beach crests. Beach front properties can also suffer from direct wave attack causing damage and localised flooding. Low-lying areas, which experience coastal erosion, can also be at greater risk of coastal inundation as natural barriers are weakened.

Erosion has been causing damage to property in the Hastings District since at least the 1850's. In particular, concern has grown at Clive, Waimarama, Haumoana and Te Awanga. The following table describes the two major coastal inundation events affecting Clive and Haumoana in recent history.

Table 17: Major Coastal Inundation Events Recorded in the Hastings District (to 2011)

Year	Date	Event
1974	Aug	Seawater flooded three hundred hectares of horticultural and urban land in East Clive. To prevent a reoccurrence a sea exclusion bank was constructed in 1976-77 along the coastal area. However, the shoreline continued to recede and erosion was accelerated by the Hastings sewer outfall constructed in 1979. By 1982 erosion had substantially decreased the ponding area between the beach berm and the sea exclusion bank and it was twice overtopped by the sea. The long-term vulnerability of the area was recognised and in 1985 a scheme was initiated to move the sea exclusion bank further inland.
2002	3 Apr	About 20 Haumoana residents had to leave their homes as the high seas threatened a dozen properties near the corner of East and Clifton Roads, with some properties receiving major structural damage. The rough seas destroyed fences, cracked doors and tossed up stones smashing windows.
2007	17 Jul	Previously damaged house lost in heavy swell at corner of East and Clifton Roads, Haumoana.
2008	8 Feb	Heavy swells of up to 6m, generated by the aftermath of cyclone Gene, pounded the coast and threatened beach front homes, with the wave level reaching homes opposite the Te Awanga Pub. Haumoana and Te Awanga homes sustained the most damage.
2008	Jul	Three storms in a one-week period occurred, resulting in the Clifton Motor Camp losing some of its land when established pohutukawa trees and 2m of coast were washed away when high tide came in.
2010	24 May	High seas along Clifton shoreline undermined six to eight metres of land by the Marine Club and motor camp.

Source: Hawke's Bay Civil Defence Emergency Management Group website

Photo: High seas at Haumoana – April 2002
Source: Hawke's Bay Civil Defence Emergency Management Group

The shoreline from Clive to Clifton has a net northerly drift of beach material resulting in significant coastal retreat. The long term shoreline retreat at Clifton Beach is on average 0.75m per year; Haumoana and Te Awanga 0.30m-0.70m per year; and Waimarama 0.13m per year.

With sea level rise predicted to accelerate over the next 100 years coastal erosion and inundation will continue to occur in Hawke's Bay, but the extent remains difficult to accurately predict. Extensive research has been carried out over the last 10 years resulting in an improved understanding of coastal processes acting along the Hawke's Bay coast. This has resulted in review of Hawke's Bay Regional Coastal Plan provisions, and has been updated in the review of the Hastings District Plan.

Rural Wildfire

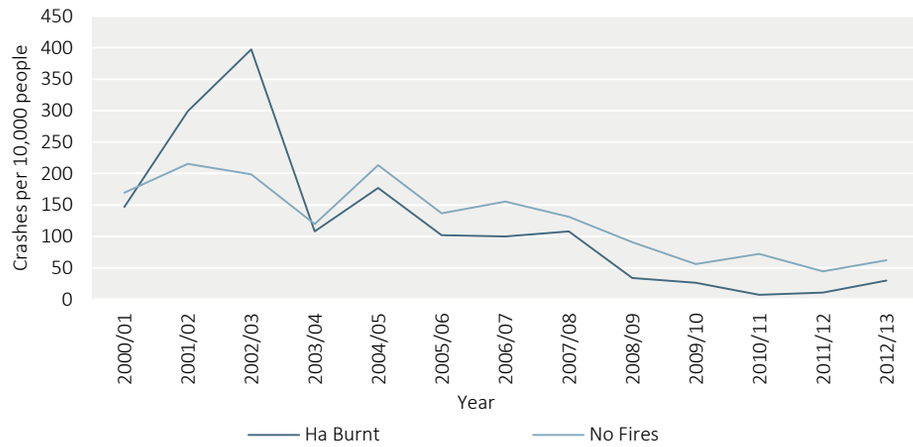
A wildfire is an unplanned fire. During periods of drought, the risk of rural wildfires increases. There have been numerous large rural fires in Hawke's Bay in the past.

Hawke's Bay has the second highest annual average summer temperature in New Zealand, with a summer average of 24°C, with an annual rainfall of 780mm/year. During periods of general, strong, west to north-west flow over the North Island, the winds across lowlands can be warm, dry fÖhn winds and in extreme cases temperatures may be 27-40ºC with a relative humidity of 8-30 percent.

Every year the Rural Fire Authorities in Hawke's Bay are required to fight large rural fires. The Hastings District is one of the largest in the North Island. Just over half of the District is under the jurisdiction of the Hastings District Council Rural Fire Authority. The remaining half of the District is under the jurisdictions of the Bay Forests Rural Fire District and the Department of Conservation Rural Fire Authority.

The graph below depicts the statistics of hectares burnt and number of fires for the Hastings District Council for the financial years 2000/01 to 2012/13 inclusive. The overall trend is very favourable trending down in both attributes despite some severe drought years.

Figure 81: Fire Statistics and Performance Trends Diagram



Source: DRAFT Rural Fire Authority Performance Evaluation Report 27 January 2014

Imposition of fire restrictions and total fire bans are mechanisms open to Rural Fire Authorities to minimise the risk of fire in the District under powers given to them under the Forest and Rural Fires Act 1977.

Restricted Fire Seasons were in place on 7 separate occasions between mid-2008 and mid-2014 (compared with 6 occasions over the last reporting period). These were from:

- 24 November 2008 to 31January 2009
- 2 March 2009 to 20 March 2009
- 8 January 2010 to 3 February 2010
- 8 January 2011 to 1 March 2011
- No Restrictions 2011 – 2012 summer
- 3 December 2012 to 14 December 2012
- 8 April 2013 to 29 April 2013
- 9 December 2013 to 9 April 2014

A Total Fire Ban was declared on 2 separate occasions between mid-2008 and mid-2013 (compared with 4 occasions over the last reporting period). These were from:

- 31 January 2009 to 2 March 2009 (32 days)
- 14 December 2012 to 8 April 2013 (110 days).

Indicator NH2: Area of Land Identified as 'Natural Hazards Resource Management Unit (RMU)'

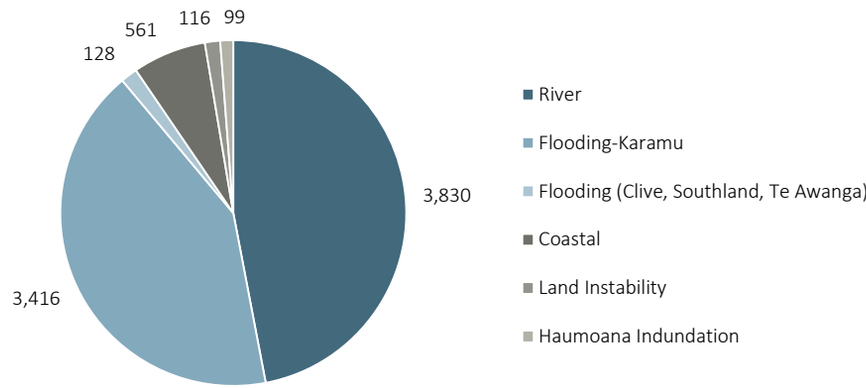
The Hastings District has land classified as being at risk to natural hazards. The following graph shows the total land area in each of the Natural Hazards RMUs in the Hastings District, where these are identified on the District Plan Maps.

As at November 2007 (when this chapter of the Operative District Plan was last updated), approximately 1.6% of the Hastings District's land area was identified on the District Plan Maps as subject to Natural Hazards RMU. Approximately 90% of that is identified as River or Flooding RMU.

Identification and refinement of hazard prone areas is continuing. The Flooding RMU in the Hastings District Plan's is based on old flood data.

The Hawke's Bay Regional Council flooding layers in GIS are based on 1 in 50 year flood events determined by new computer modelling. Latest data will likely be applied as part of the current review of the Hastings District Plan.

Figure 82: Area of Land Identified as Natural Hazards Resource Management Unit



Source: Hastings District Council

In addition to the above areas which are identified on the District Plan Maps, the District Plan also refers to an Earthquake RMU, a Fire Hazard RMU, and a Volcanic RMU. There are currently no District Plan rules applying to these RMUs.

While substantial research has been undertaken into earthquake hazards, a complete database of areas within the Earthquake RMU has not yet been developed. However, active fault lines and the susceptibility of areas within the District to liquefaction and ground shaking amplification from earthquakes are mapped and included as appendices to the District Plan for information purposes.

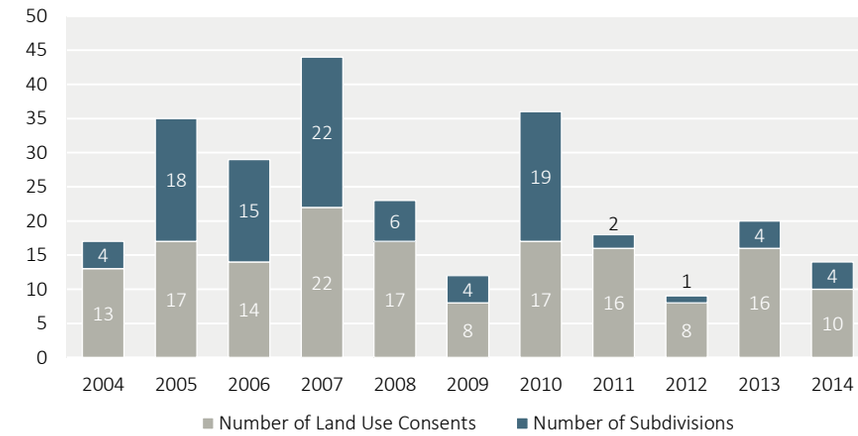
The Fire Hazard RMU comprises areas of the District that do not have a reticulated water supply, but these areas are not identified on the District Planning Maps.

Currently, there are no areas identified as being prone to volcanic activity in the Hastings District.

Indicator NH3: Number of Consents for Subdivision/Land Development within the Natural Hazards RMU

Between 2004 and 2014, there have been a total of 257 resource consents (158 land use and 99 subdivision consents) within the various Natural Hazards RMUs.

Figure 83: Number of Land Use & Subdivision Consents within Natural Hazards RMU (2004-2014)



Source: Hastings District Council

The number of resource consents within the Natural Hazards RMU generally rose over the period to 2008, peaking in 2007 with 44 consents (more than double the number in 2004). This closely follows the pattern for the total number of resource consents over this period, which also doubled between 2004 and 2007, largely in response to economic conditions. From 2007, resource consents within the Natural Hazards RMU dropped and, with the exception of a spike in 2010, have remained relatively low since. This suggests pressure to develop in Natural Hazards RMU areas has not been disproportionally different to development across the District generally.

The vast majority of resource consents granted in Natural Hazards RMUs were in either the Coastal Inundation Unit or Flooding Hazard RMUs. Less common were resource consents in the Land Instability RMU.

Of the 257 consents in the Natural Hazards RMU from 2004 to 2014, approximately a quarter were in the Coastal Residential Zone, just over half in the rural zones (Rural, Plains and Rural Residential Zones), and the remainder in the urban zones.

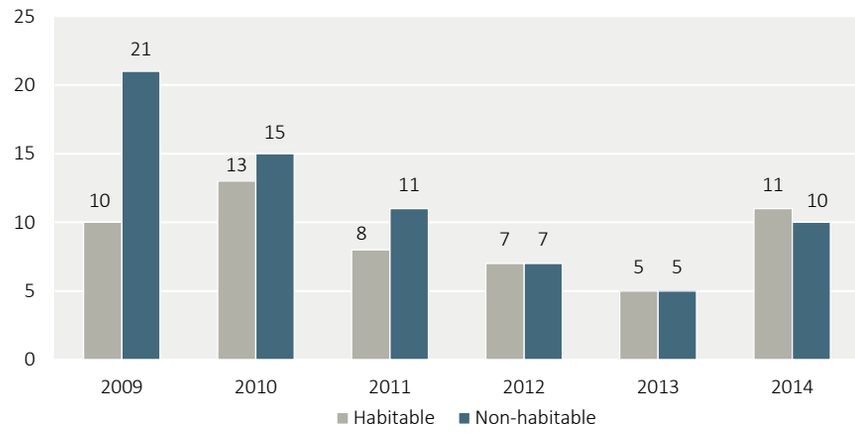
Consents in the Coastal Residential Zone were either in Coastal or Flooding/Inundation Hazards RMU areas. In the rural zones, consents were either Flooding/Inundation or Land Instability Hazards RMU areas. In the urban zones, consents likely triggered Flooding Hazard RMU areas.

Indicator NH4: Building consents granted within Natural Hazards RMUs

The number of building consents granted in Natural Hazards RMU trended downwards between 2009 and 2013, before spiking in 2014. This reflects the general trend for building consent number over this period.

The majority of building consents for new buildings were for non-habitable buildings and overall numbers were low. This suggests the demand for new dwellings in areas located within Natural Hazard RMUs is relatively low.

Figure 84: Building Consents in Natural Hazards RMU (2009-2014)



* Only building consents for new buildings are graphed above
Source: Hastings District Council

Hastings District suffers from a range of natural hazards related to weather and climate (such as major storm and flood events, coastal erosion and inundation events, and rural wildfires).

Recording natural hazard events contributes to an understanding of how the presence of people and associated development can exacerbate the effects of such hazards on people, property and the natural environment. It may also, in the future, contribute to an understanding of the effects of climate change on the District over time.

Approximately 1.6% of the Hastings District's land area is currently identified on the District Plan Maps as subject to Natural Hazards RMU. Approximately 90% of that is identified as River or Flooding RMU. Therefore Natural Hazards RMUs cover a relatively small part of the District. Identification and refinement of hazard prone areas is on-going.

The number of resource consents within the Natural Hazards RMU generally rose over the period to 2008, peaking in 2007 at 44 (more than double the number for 2004), but has since dropped.

Inundation of the coastal areas of Clifton and Te Awanga continues to be a significant risk or threat.

Responses

For Community

- Consider the risk of natural hazard when purchasing a property or building a home e.g. flooding, coastal hazard and land instability risks
- Be aware of, and adhere to, fire restrictions when in force
- Have an emergency plan in place, and enough supplies to be able to support yourself in your home for at least 3 days in the event of a natural disaster.

For Council

- Monitor building consents and resource consents in current Flooding RMU areas and also HBRC flooding areas
- Carefully manage development in coastal hazard areas with a view to avoiding development in the most at risk areas
- Review the Natural Hazards RMU areas on the District Plan Maps to reflect continued research and improved flood modelling by Hawke's Bay Regional Council, identification of coastal hazard zones[55], and further areas of land instability risk as they become known.

[55] In February 2004, consultants Tonkin and Taylor Limited prepared a report for Hawke's Bay Regional Council which assessed coastal hazard risks for the Hawke's Bay coastline.

Hazardous Substances

The Hastings District has a strong horticultural, viticulture and agricultural industry, each involving the use of various hazardous substances including herbicides, pesticides, and associated activities such as cool stores.

These substances, if not handled correctly, pose a significant hazard to people and communities within the District, as well as to the natural environment.

Uncontrolled release of hazardous substances into the environment has the potential to result in:

- Contamination of water, soil and air
- Short and long term damage to ecosystems
- Accumulation of persistent substances in the bodies of humans and animals, resulting in chronic and/or long term damage to their health
- Acute damage to human health through exposure to substances affecting skin, mucous membranes, respiratory and digestive systems
- Damage to the environment from fire or explosion events
- Damage to human health and property from fire or explosion events.

The potential for environmental damage from spills is of particular concern where hazardous substances are stored or used next to streams, lakes, aquifers and other sensitive areas.

Indicators

The table below shows the indicators that are used to monitor hazardous substances in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR HAZARDOUS SUBSTANCES

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated, protected, and sustained for future generations.	Operative District Plan Section 13.8.6 (Hazardous Substances): • Appropriate siting and control of hazardous facilities. • Avoidance of unacceptable risk to the community and the environment from the use, storage and transport of hazardous substances. • A reduction in the number of accidents and the extent of adverse environmental effects due to the release of substances stored and used at hazardous facilities. • Adoption of better site management and operational practices. • Avoidance of contamination of the natural environment from facilities storing and using hazardous substances. • Improved community and industry awareness of risks posed by activities using, storing or transporting hazardous substances. Proposed District Plan (2013) Section 29.1 (Hazardous Substances and Genetically Modified Organisms) • Appropriate precaution is taken in the management of hazardous substances over the Heretaunga Plains Unconfined Aquifer • Activities utilise hazardous substances where necessary for their operations, in appropriate locations
HS1	Number of Consents Involving Employment of the Hazardous Facility Screening Procedure	Pressure	Hazardous substances are a risk to the environment. To protect our environment and sustain it for future generations we need to minimise, manage and dispose of hazardous substances in a safe manner. Monitoring the number of activities requiring the employment of the hazardous facility screening procedure gives a good indication of what, where and the volume of hazardous substances in the District. It also gives an indication of the potential risks posed to the environment, and enables better protection for present and future generations.	
HS2	Number of Reported Incidents and Callouts to Hazardous Substances Spills	Pressure	The number of reported callouts to hazardous substance spills again indicates the potential risks posed to the environment and the need for controls.	

Monitoring Information

Indicator HS1: Number of Resource Consents Involving Employment of the Hazardous Facility Screening Procedure

The Hazardous Facility Screening Procedure (HFSP) was designed as a screening tool to assist Council in deciding the risks posed by the use and storage of hazardous substances. This procedure was originally designed by a consortium of District and Regional Councils and the Ministry for the Environment, and has been adopted and tailored to reflect the Hastings District context.

The HFSP is applied to any proposed activity using or storing hazardous substances. Facilities existing prior to notification of the current Hastings District Plan (i.e. 12 November 1997) however, are not subject to the HFSP unless they expand or alter their operations.

Between 2004 and 2008, there have been 4 sites in which the HFSP was used, resulting in a requirement for a resource consent application for the use or storage of hazardous substances.

These sites were located in:

- Maraekakaho Road (for a petrol storage facility);
- Omarunui Landfill (the District's solid waste disposal facility);
- Evenden Road (for storage of hazardous substances associated with a horticultural facility); and
- Brookvale Road (for storage of hazardous substances associated with a horticultural facility).

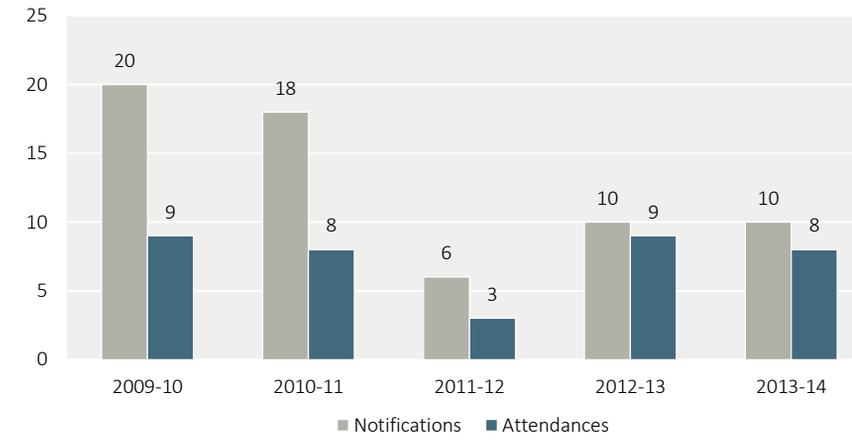
Groundwater in the Heretaunga Plains Unconfined Aquifer (the main groundwater resource for people living on and adjacent to the Heretaunga Plains) is vulnerable to contamination from the effects of activities on the surface. This is because there is no impermeable surface sediment which would prevent or minimise the downward flow of contaminants. None of the 4 sites listed above were situated over the Heretaunga Plains Unconfined Aquifer.

There have not been any specific resource consents that required HFSP to be employed between 2009 and 2014.

Indicator HS2: Number of Reported Incidents and Callouts to Hazardous Substances Spills

The number of reported spills involving hazardous substances has fluctuated slightly over the last three years, but the number of reported incidents per year has dropped from an average of 40 over the last reporting period to 10.

Figure 85: Hazardous Substances Incidents & Spills (2009/10 to 2013/14)



Source: Hastings District Council

Most hazardous substance spills are dealt with by the New Zealand Fire Service and/or Hawke's Bay Regional Council. The number of callouts to Hastings District Council's Emergency Management Team to attend hazardous substance spills shows that the District Council is currently called out to about half of the incidents reported, although this appears to be increasing.

The Environmental Protection Agency (EPA) and WorkSafe NZ are responsible for the collection and collation of information relating to hazardous substance events.

Between 2004 and 2008, there have been 4 sites in which the Hazardous Facility Screening Procedure was used, resulting in a requirement for a resource consent to use or store hazardous substances. There were no specific resource consents that used the HFSP in 2009-2014.

The number of spills involving hazardous substances reported to Hastings District Council's Emergency Management Team has fluctuated over the last reporting period, but averaged about 40 reported incidents per year. This has dropped to an average of 10. However, as hazardous substance spills are now dealt with by the New Zealand Fire Service and/or Hawke's Bay Regional Council, it is likely that there are many incidents which HDC's Emergency Management Team are not involved in.

Future reporting would benefit from collating data on hazardous substance spills notified to and attended by the New Zealand Fire Service, Hawke's Bay Regional Council's Pollution Response Team and Hastings District Council's Emergency Management Team.

Responses

For Community

- Only use hazardous substances when absolutely necessary
- If you are using or storing any hazardous substances make sure that they are being used and stored in accordance with appropriate guidelines and regulations to avoid contaminating the land, air or water
- Unwanted hazardous substances should not be disposed of with general rubbish – the annual HazMobile Collection is a safe and easy way to dispose of such waste
- If you see or smell any chemical or oil spills, call the Hawke's Bay Regional Council Pollution Hotline Phone: (0800) 108 838 and tell the Pollution Response Team about it, or the New Zealand Fire Service.

For Council

- Ensure Council staff are trained in the use of the Hazardous Facility Screening Procedure
- Ensure Council's Emergency Management staff continue to be suitably trained and maintain readiness to respond to emergency callouts involving hazardous substance spills
- Continue to work with EPA, WorkSafe NZ, the New Zealand Fire Service and Hawke's Bay Regional Council's Pollution Response Team to ensure appropriate response to incidents involving hazardous substance spills.

Sustainable Waste Management

Sustainable Waste Management

THE ISSUE AT A GLANCE

INDICATOR		STATE 2004-2008	STATE 2009-2014	SUMMARY
Solid Waste				
SW1	Environmental performance of Omarunui Landfill			HBRC compliance monitoring reports indicated that the landfill generally complied with all its conditions of consent. In 2014 there was one non-compliance which was of a minor nature.
SW2	Volume of solid waste disposed			The volume of solid waste disposed of to the landfill has continued decline (a 33% decrease since 2009/10), as has the overall combined volume of waste being sent to the Landfill from Napier and Hastings (a 13% decrease since 2009/10).
SW3	Composition of solid waste disposed to Landfill			While a large portion of material in the landfill is recyclable or compostable (43%), this has improved since the last report.
SW4	Fly-tipping incidents in the District	-		In 2014, there were 183 fly-tipping incidents. Fly-tipping, or illegal dumping, cost the Council $7,000 in 2014 when these incidences began being recorded.
SW5	Volume of recycling			The volume of recycling collected via Council services has been steady over the current reporting period.
SW6	Residents' satisfaction with provision of recycling facilities			High satisfaction with provision of recycling facilities with 90% surveyed being satisfied.
Hazardous Waste				
HW1	Volume of hazardous waste disposed			HazMobile volumes peaked in 2006 when 27 tonnes of hazardous waste was collected across the Hawke's Bay Region. Although the volume of waste collected has decreased since 2006, it has remained relatively steady between 2009-2014.

Section 31 of the RMA gives the District Council the function of managing and controlling the effects of the use, development, or protection of land, and of particular relevance to sustainable waste management, this includes for the purpose of:

- The prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances (which would include hazardous waste); and
- The prevention or mitigation of any adverse effects of the development, subdivision, or use of contaminated land.

Solid Waste

Waste is materials and energy which have no further use and are released into the environment as a means of disposal. Waste can be in solid, liquid or gaseous form. This section looks at solid waste.

The amount of waste produced is not only a measure of our resource consumption, but it also impacts on the quality of our environment. Reducing the amount of waste produced, and disposed of, is the best way to reduce the effects of waste on the environment. This can be achieved by reusing items rather than throwing them away, and through recycling. The Council actively encourages as much waste reduction and recycling as possible and has a duty to manage waste in a way that minimises any effects on the District's land, air and water resources.

Generally solid waste is disposed of at landfills. As waste disposed to landfills breaks down, it produces contaminants – some toxic, that can enter the environment, polluting our air, land and water. The contamination caused by the breakdown of solid waste has the potential to impact on the 'Mauri', or life supporting capacity, of the natural environment.

The Hastings District is served by one landfill, known as Omarunui Landfill, which is situated at Omarunui Road and is jointly operated by the Hastings District and Napier City Councils. It is only open to commercial operators/contractors with a Waste Disposal Licence (it is not open to the general public). There are also a small number of private landfills in the District.

The effects of landfills can include odour, pests, reduced amenity, and water contamination from leachate. Eventually, landfills reach capacity and a new landfill is needed. This is a costly process and increases the area over which contamination can occur. The goal is to reduce the amount of waste going to the landfill and to manage the disposal of waste so that the effects on the environment are minimal.

Photo: Omarunui Landfill
Source: Napier City Council

Indicators

The table below shows the indicators that are used to monitor solid waste in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR SOLID WASTE

INDICATOR		INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES AND HOW IT INFORMS THESE OUTCOMES
			Relevant Outcome Statements: • An environment that is appreciated protected and sustained for future generations. • Hawke's Bay is clean, green and pollution free.	NIL
SW1	Environmental Performance of Omarunui Landfill	Pressure	Monitoring the quality of the environment (in this case water) surrounding a landfill shows the actual impact that waste disposal is having on the environment, in terms of leachate potential as waste breaks down.	
SW2	Volume of Solid Waste Disposed	Pressure	The generation and disposal of solid waste puts pressure on land, water and air as wastes break down and produce contaminants that can enter the environment. Waste production over many years can result in the accumulation of pollution in the land and water surrounding the landfill.	
SW3	Composition of Solid Waste Disposed to Landfill	Pressure	Some types of waste have greater effects on the environment than others. Understanding what types of waste are being disposed of at the Landfill provides information to assist Council implement ways to reduce certain types of waste to further protect the environment.	
SW4	Fly-tipping incidents in the District	State	Fly-tipping is a major environmental issue and monitoring the number of incidents provides an indication of the level of waste that is not going to the landfill and will assist Council to find ways of reducing the problem.	
SW5	Volume of Recycling	Pressure	Recycling reduces the amount of waste being disposed to the landfill (it's a 'reuse' aspect of waste management).	
SW6	Residents' Satisfaction with Provision of Recycling Facilities	State	Monitoring residents' satisfaction with recycling facilities is useful to identify whether there is a need to improve or expand this service.	

Monitoring Information

Indicator SW1: Environmental Performance of Omarunui Landfill

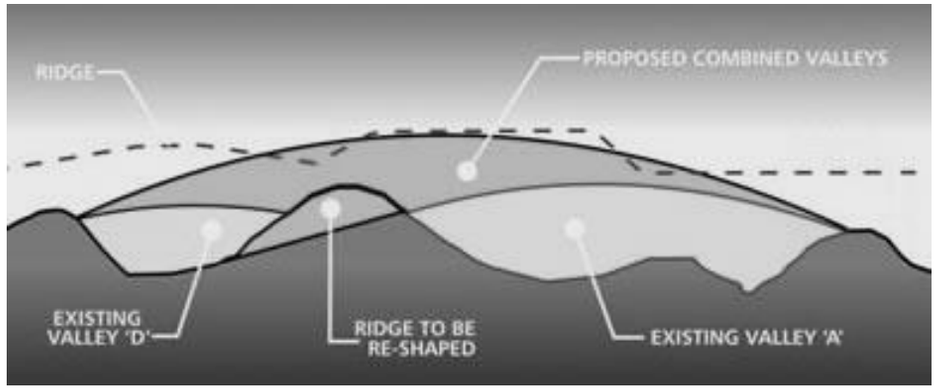
The Omarunui Landfill comprises of four valleys identified as suitable for refuse disposal. Area A received waste between 1988-2007 and is now closed and Area D has been operational from 2007.The remaining landfill space at Omarunui Landfill is expected to serve the Hastings and Napier communities for 50+ years beyond 2025.

The life expectancy of the landfill depends on the amount of waste being received. Reducing the amount of waste going to the landfill means the life expectancy of the facility increases accordingly. The longer the landfill lasts, the less impact our waste disposal will have on the environment, through postponing the need for another waste disposal facility.

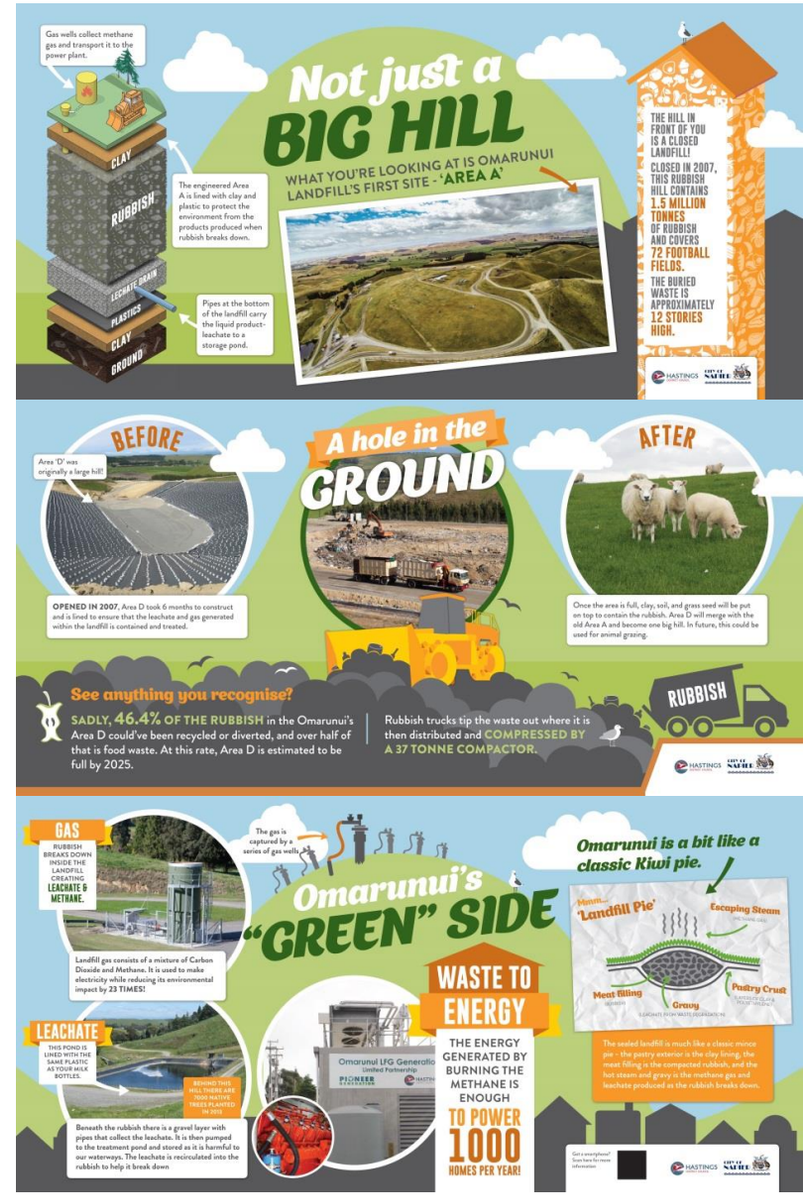
The Omarunui Landfill is a fully contained municipal landfill, meaning nothing should leave the site by way of pollution. Leachate is collected and re-circulated and methane gas is turned into electricity to power approximately 1000 homes. The Landfill is accredited with an ISO9000:2001 environmental management system.

Omarunui Landfill prescribes to best international practice and construction of Valley D (the currently active part of the landfill) utilised a three liner system using; clay, Geosynthetic liner and HDPE plastic liner.

The following images show the final layout of the Omarunui Landfill in 2025.



Source: Napier City Council



Hastings District Council and Napier City Council hold a number of resource consents from Hawke's Bay Regional Council (HBRC), associated with the operation of the Omarunui Landfill:

- DP040122A – to discharge odour, landfill gas and dust to air;
- DP040120La – to discharge leachate and waste from landfill to land; and
- DP040121W – to discharge stormwater to water via stormwater retention ponds.

HBRC compliance monitoring reports for the 2014/15 year indicated that the landfill generally complied with all its conditions of consent.

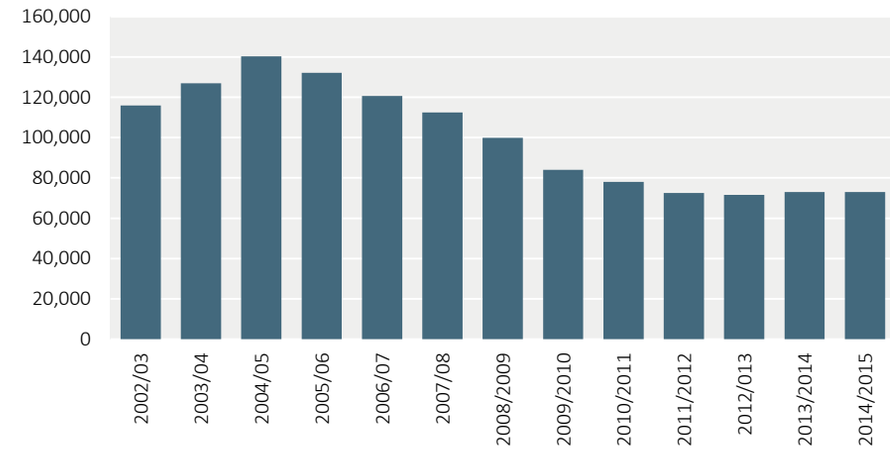
In 2014 there was only one non-compliance which was of a minor nature. The non-compliance related to small seepage from one of the tell-tale pipes. The HBRC are in agreement with the HDC proposals to continue to monitor the discharge (when it occurs) and take an annual sample. HBRC stated that *"the landfill continues to be very well managed".*

Indicator SW2: Volume of Solid Waste Disposed

Most of the waste that comes to the landfill is from the commercial sector and the refuse transfer stations (RTSs). The two refuse transfer stations in the Hastings District are Blackbridge RTS on Mill Road, Clive, and Henderson Rd RTS in Hastings. The Blackbridge refuse transfer station was proposed for closure and is now operated under lease by a private contractor.

The following graph shows the tonnage of solid waste received at the two refuse transfer stations in Hastings District, and the total tonnage of waste received at Omarunui Landfill (being the combined tonnage of waste from the refuse transfer stations, commercial waste operators and industrial waste sources from both Napier City and Hastings District).

Figure 86: Volume of Solid Waste to Refuse Transfer Stations (2002/03 – 20014/15)



Source: Hastings District Council

The results of this indicator show that the historical trend of increasing waste being sent to landfill has reversed.

Tonnage of solid waste to the Refuse Transfer Stations in the Hastings District shows continued gradual decline over the 2009-2014 reporting period (a 12% decrease since 2004/05), as has the overall combined volume of waste being sent to the Landfill from Napier and Hastings (a 20% decrease since 2004/05).

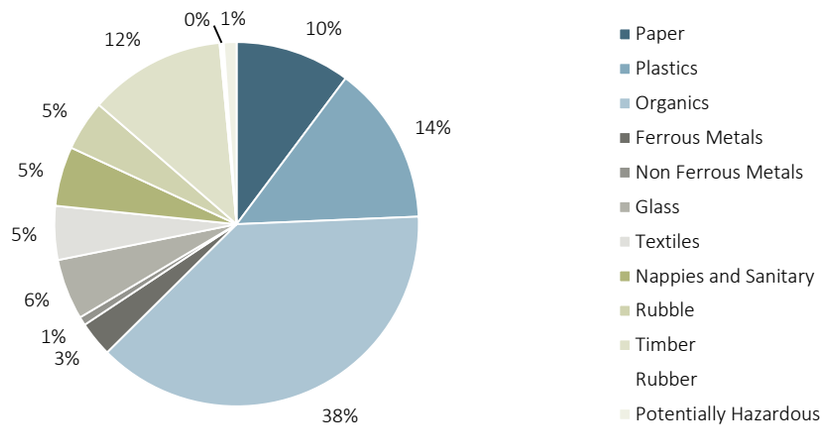
This positive trend shows that a reduction in solid waste is being achieved, either by creating less waste or diverting it e.g. re-using items and/or recycling.

Indicator SW3: Composition of Solid Waste Disposed to Landfill

Using the Ministry for the Environment published Solid Waste Analysis Protocol Solid Waste Analysis Protocol (SWAP) surveys are carried out at the Omarunui Landfill and each refuse transfer station every third year.

The first SWAP survey was carried out in 2007 for Hastings District and Napier City Councils[56]. Surveys have been undertaken in 2009 and 2012. The survey report contains detailed information on composition resulting from both a visual and 'sort and weigh' audit.

Figure 87: Composition of Overall Waste to Omarunui Landfill (2012)

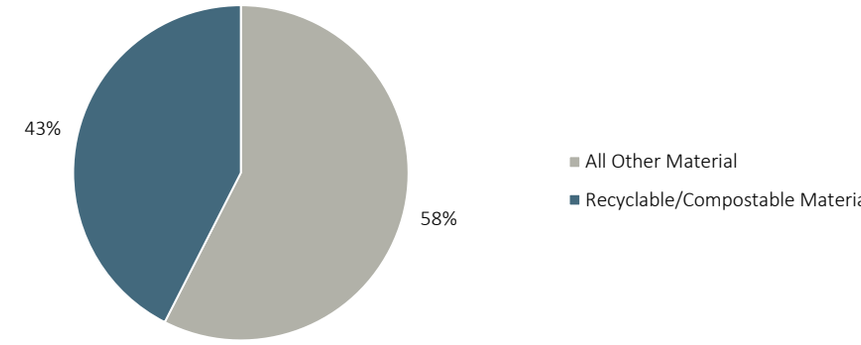


Source: Hastings District Council

In 2012, the largest proportion of solid waste to the Landfill was organics (38%), followed by plastic products (14%), Timber (12%) and paper (10%). These all offer potential for further diversion of waste from the Landfill.

This information shows that there is still a large proportion of the waste being disposed of at the landfill that could potentially be composted, recycled or reused rather than sent to the landfill. The results of future surveys will assist with trend analysis for future reporting.

Figure 88: Proportion of material disposed of to Omarunui Landfill that could be recycled or composted (2012)



Source: Hastings District Council

Indicator SW4: Fly-tipping incidents in the District

Fly tipping is the illegal dumping of rubbish. Reliable data about the incidence of fly tipping in the District has been recorded since 2014. Common forms of rubbish dumped included animal carcasses, household waste, and car parts.

The table below shows the numbers of incidents of fly-tipping, as opposed to the quantity or number of items dumped.

Table 18: Number of fly-tipping incidents in Hastings District 2014

Number of Incidents	2014
Carcass	26
Other Rubbish	157
Total	183

[56] *Survey of Solid Waste in Hawke's Bay,* March 2012, Waste Not Consulting.

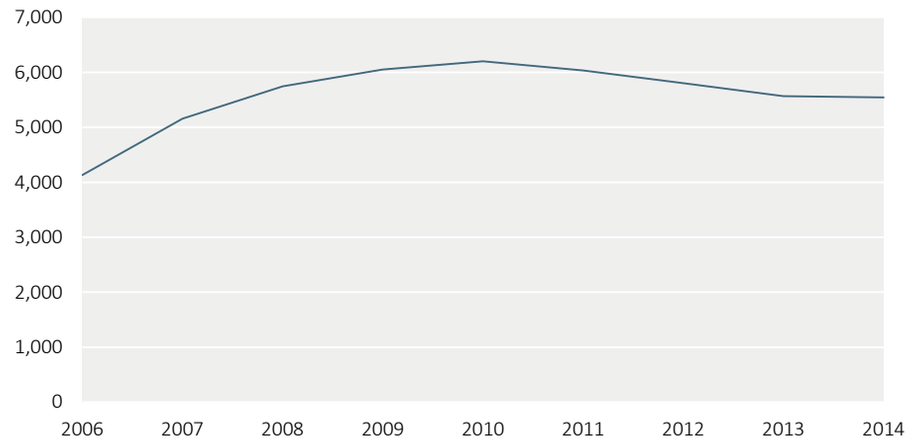
The total number of carcasses dumped is difficult to quantify exactly. This is because in some instances the carcasses were removed before Council located them. However, it is believed approximately 72 sheep carcasses were found, along with 2 cow carcasses. The cost to Council to dispose of these was approximately $7,000.

Dumped chicken carcasses were also common, with 30 chickens found on one occasion, and a bag containing 10kg of chicken carcasses on another occasion.

Indicator SW5: Volume of Recycling

Recycling facilities in the Hastings District include both kerbside collection and drop-off areas. Kerbside recycling is provided in the urban areas of Hastings, Flaxmere, Havelock North, Clive, Whakatu, Clifton, Te Awanga and Haumoana – serving almost 70% of the District's population. The volume of recycling has been steady over the reporting period.

Figure 89: Volume of Recycling (Tonnes)

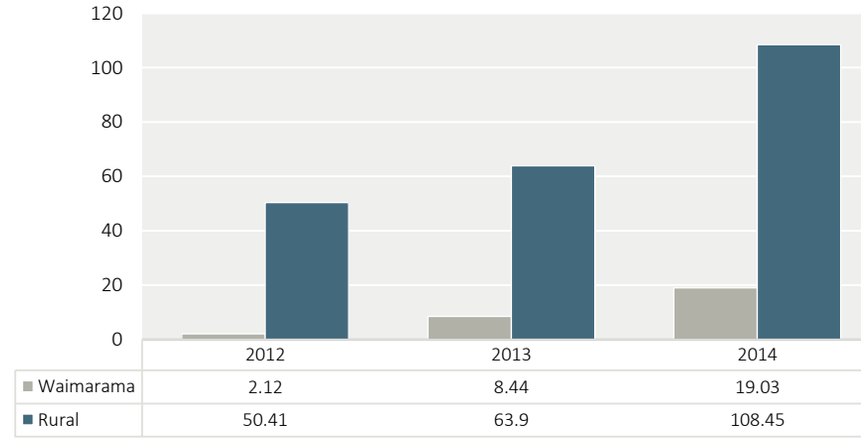


Source: Hastings District Council

In addition to kerbside recycling, there are recycling drop-off facilities at the two Refuse Transfer Stations (RTSs), and a dedicated recycling depot in Martin Place, Havelock North (which is open 24 hours a day/7 days a week). Rural recycling trials established at Maraekakaho and Tutira in June 2012. These trials proved to be successful and were made permanent in 2014.

This shows that the community is increasingly using the service to recycle goods that would otherwise have ended up in the landfill.

Figure 90: Rural Recycling



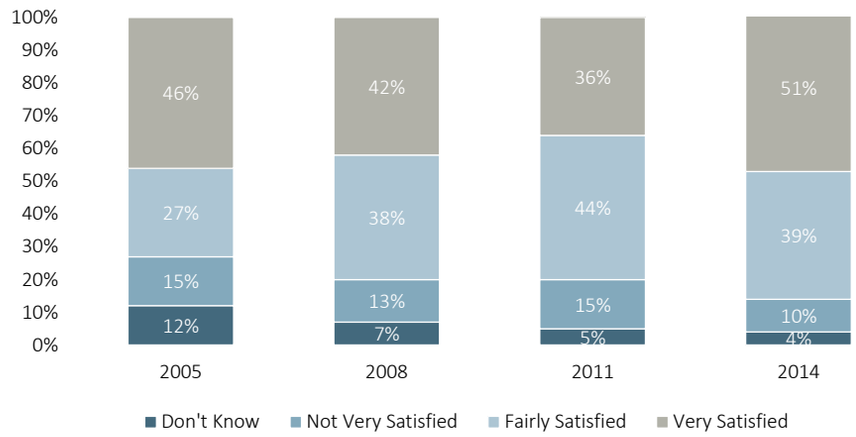
Source: Hastings District Council

Indicator SW6: Residents' Satisfaction with the Provision of Recycling Facilitates

Resident's satisfaction with the provision of recycling facilities gives some insight into whether Council's recycling facilities are meeting demand in a way that encourages greater diversion of solid waste from going to the landfill.

The following graph shows that the majority of the 503 respondents to the Council's tri-annual Communitrak Survey were satisfied with recycling facilities in the District in 2008. Satisfaction with recycling services continued to improve, reaching 90% in 2014.

Figure 91: Satisfaction with Provision of Recycling Facilities (2005-2014)



Source: Hastings District Council Communitrak and Public Voice Survey

Omarunui Landfill was commissioned in 1988 and is operated by both Hastings District Council and Napier City Council. It takes waste from both local authority areas. It's expected lifespan is 50+ years, with the possibility of a further 20 years depending on another area being investigated.

There has been a gradual decrease in the amount of waste being sent to the Refuse Transfer Stations in recent years. When viewed alongside data showing that the volume of waste being recycled has significantly increased since 2004, and although this has plateaued, it shows that the efforts of the Council and community to reduce waste and increase recycling are working.

However, the information in terms of the composition of waste entering the Omarunui Landfill shows that a lot of material that could be recycled is still being sent to the landfill and therefore there is still room for improvement.

Of all those surveyed, 90% are fairly or very satisfied with the provision of recycling facilities in the District. This suggests that demand for recycling facilities is largely being met, and that more and more households are using these services.

Responses

For Community

- Next time you are putting something in the bin, take a second to think how you can recycle it! Reduce, reuse and recycle waste wherever possible to limit the amount of waste being sent to the landfill
- Have you ever wondered what happens to your rubbish after you leave the bag at the gate? You can find out by taking a tour of the Henderson Road Transfer Station or the Omarunui Landfill. Contact Sport Hawke's Bay or the Council's Waste Minimisation Team for more information.

For Council

- Gather information about the number of resource consents for private landfills in order to determine a full picture of total waste volume.
- Continue with initiatives to encourage waste reduction and recycling
- Continue with monitoring programmes to detect any effects on the environment from the Omarunui Landfill.

Hazardous Waste

Hazardous waste is waste in solid, liquid or gaseous form that is toxic. This includes things such as paints, solvents, garden and household chemicals, petrol, oil and diesel, batteries, gas cylinders and light bulbs.

Hazardous waste can be dangerous at every stage of its 'life'. It can cause fire or toxic fumes, can be poisonous, and can leak and contaminate the soil or groundwater.

Hazardous waste can have significant impacts on the environment if not disposed of properly, and needs special disposal facilities to prevent it from contaminating the environment. If it ends up in our landfill, it could pollute our environment.

Indicators

The table below shows the indicators that are used to monitor hazardous waste in the District. These indicators are also used to inform other monitoring programmes for the District, such as Community Outcomes Monitoring and monitoring achievement of the anticipated outcomes in the Hastings District Plan, as shown below.

INDICATORS FOR HAZARDOUS WASTE

INDICATOR	INDICATOR TYPE	RELEVANT COMMUNITY OUTCOMES AND COUNCIL OBJECTIVES	RELEVANT DISTRICT PLAN OUTCOMES
		Relevant Outcome Statements: • An environment that is appreciated, protected, and sustained for future generations. • Hawke's Bay is clean, green and pollution free	Operative District Plan Section 13.8.6 (Hazardous Substances): • Appropriate siting and control of hazardous facilities. • Avoidance of unacceptable risk to the community and the environment from the use, storage and transport of hazardous substances. • A reduction in the number of accidents and the extent of adverse environmental effects due to the release of substances stored and used at hazardous facilities. • Adoption of better site management and operational practices. • Avoidance of contamination of the natural environment from facilities storing and using hazardous substances. • Improved community and industry awareness of risks posed by activities using, storing or transporting hazardous substances. Proposed District Plan (2013) NIL
HW1 Volume of Hazardous Waste Disposed	Pressure	Hazardous waste is very toxic to the environment. To protect our environment and sustain it for future generations we need to minimise any contamination from hazardous waste by managing and disposing of it in a safe manner.	

Monitoring Information

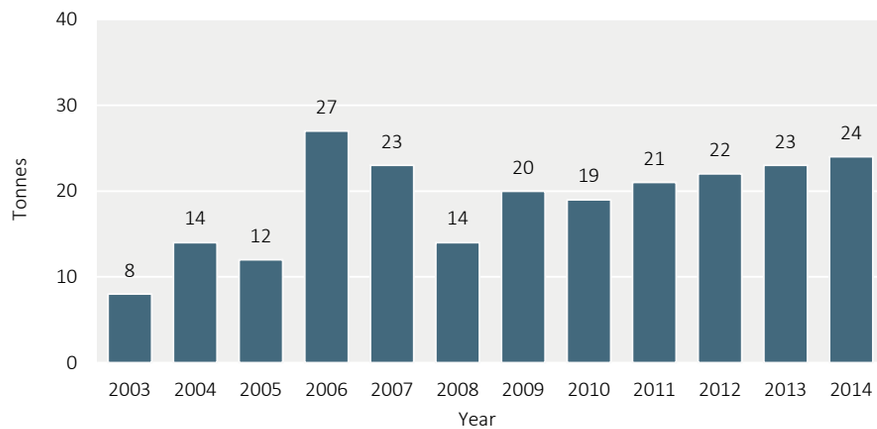
Indicator HW1: Volume of Hazardous Waste Disposed

Currently, there is no comprehensive data on the volume of hazardous waste disposed of in the District, as there are numerous avenues for its disposal. That does not mean there is not significant hazardous waste being generated. For instance, Council recovers an average of 12 tonnes of oil from transfer stations per annum. The volume of waste collected through the HazMobile is also a good indicator.

The HazMobile is a concept established by the former Auckland Regional Council and brought to Hawke's Bay. It's a free service for householders provided by the Hawke's Bay Regional Council, Hastings District Council, and Napier City Council.

The HazMobile visits carparks in Hastings and Napier once a year so that householders can dispose of their hazardous wastes – for example old paints, waste oil, batteries and household and garden chemicals – safely.

Figure 92: Volume of Hazardous Waste Collected through HazMobile (2003-2014)



Source: Hastings District Council

The previous graph shows the volume of hazardous waste collected through HazMobile from 2003 to 2014 for the Region, and shows that the volume of hazardous waste has trended upwards, peaking in 2006 when 27 tonnes of hazardous waste was collected across the Hawke's Bay Region.

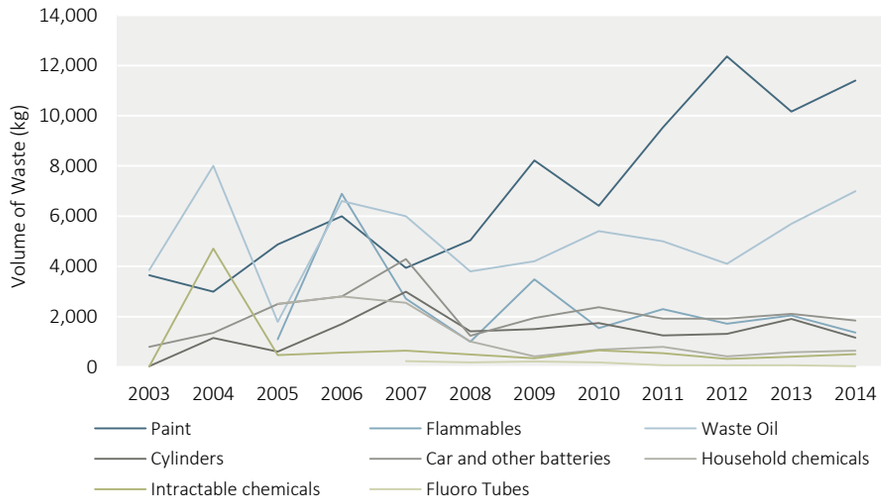
The steady participation of HazMobile suggests that Hastings residents are becoming increasingly aware of the service and making use of it to dispose of common household hazardous waste.

Industries and businesses within the District are required to have other arrangements to dispose of their hazardous waste. This is usually with the supplier and therefore no information is available on the amounts being used or disposed.

Take back schemes such as the 'Resene Paintwise' programme (a product stewardship programme which recycles old paint) are accounting for a percentage, as is the Regional Council's Agricultural Chemical collection which services the District's farms twice yearly.

There is a growing awareness of the need for careful management and disposal of hazardous waste by industry through Ministry for the Environment guidelines, overseas purchasing policies such as Eurogap, Hazardous Substances & New Organisms Act 1996, and Waste Act 2008. These are all contributing to seeing proper systems in place for the disposal of waste.

Figure 93: Composition of Waste Collected by HazMobile



It is difficult to determine the amount of hazardous waste disposal in the District as there are numerous avenues for its disposal.

Hastings District and Napier City Councils and Hawke's Bay Regional Council run a mobile collection service once a year (known as HazMobile) for residents to drop off household hazardous wastes. Utilisation of this service is steadily increasing. Industries and businesses are required to have other arrangements to dispose of their hazardous waste.

Responses

For the Community

- Ensure that any household hazardous waste is disposed of appropriately by taking it to HazMobile or contacting the Regional Council.

For Council

- Monitor the type and volume of hazardous wastes collected through the HazMobile
- Monitor changes in the frequencies of organisations collecting hazardous wastes
- Support education campaigns on how to store and dispose of hazardous wastes appropriately and safely.

Case Study: Rural Recycling

Relating to Indicators SW5 and SW6, this project will increase recycling access for the districts 17,000 rural residents by making recycling convenient and placing an option within local travelling distance.

Providing this service will reduce the reliance on farm pits and increase the recycling rates of materials that are recycled across the district.

An opportunity was identified to introduce specific rural recycling through the development of Council's Waste Management and Minimisation Plan. The introduction of this programme would provide greater control to Council over the method of collection and servicing. It would also lead to informed and engaged communities and a reduction in contamination and associated sorting costs of recyclable material.

Currently these communities don't have convenient access to recycling facilities or services. Over the past two years, HDC has been designing and trialling modified 20 foot shipping containers (Green Bins) for the collection and transportation of domestic recycling from rural and coastal communities. These containers help to reduce associated servicing costs.

It is HDC's desire to provide convenient recycling facilities to our rural communities that is cost effective to collect, transport and sort and which leads to wider environmental positive outcomes, e.g. moving away from the use of farm pits.

To gauge the need and willingness of the communities to participate, Council agreed to trial a recycling service for 12 months at two locations. The trials commenced in June 2012. The Tutira site is a rural farming community 60 minutes north of Hastings. The Maraekakaho site is a rural community 20 minutes south of Hastings that includes a mixture of lifestyle, farming, orchards and viticulture properties. The two sites were chosen due to the differences presented by each and the availability of local community champions, who would help manage the facilities.

This design was developed to ensure the greatest efficiency and use of available space. The 20 foot shipping containers are the best size for a hook truck and the containers are easy to pick and transport around the district. Shipping containers are also robust and designed to take heavy loads.

The use of internal walls and doors, some of which are movable, allow the bins to be easily used at any site across the district with minor adjustments. Placing the slot near the top of the bin enables most of the space to be used and reduces both the number of times the bin needs servicing and truck movements on and around sites. The Shipping Containers store a large volume of material, which reduces servicing visits and costs.

Each bin has up to six compartments allowing for source separated material in the following categories; plastic and cans, paper and cardboard and colour-sorted glass. The compartments are adjustable allowing for changes where a community produces a larger volume of a particular material.

Council is developing 'fit for purpose' recycling options for the rural and coastal communities. Providing cost effective solutions will assist in insulating these services against external factors such as rising bin hireage and servicing costs.

This initiative also relates to goals of the NZ Waste Strategy 2010:

- Reducing the harmful effects of waste, and
- Improving the efficiency of resource reuse.

Objectives of the HDC Waste Management and Minimisation Plan:

- To improve the opportunity for avoiding or reducing waste at source
- To improve the quality of diverted material where cost effective.

The development of the Green Bins has had a number of advantages for the Hastings District Council:

- Removing the health and safety risk associated with manual lifting by staff
- Reducing servicing costs by bulk containerisation, and
- Uniforming approach across all recycling facilities.

Using Council's own infrastructure and giving Council control over the establishment and servicing of sites.

HDC believe they have been resourceful in developing a cost effective solution providing recycling facilities to the entire district.

Permanent recycling facilities will be established in the following locations across the Hastings District over the 2015-2016 year:

- Tutira
- Te Pohue
- Patoka
- Sherenden
- Maraekakaho
- Waimarama
- Poukawa.

The cost for this new service will be $7 per rural property which the community have been consulted upon and have supported.

Contaminated Sites

Contaminated sites are properties or areas of land or soil where hazardous substances are present at levels above background levels and where they are likely to pose an immediate or long-term risk to human health or the environment.

This is usually from activities that have been, or are being, undertaken on sites that use chemicals and toxic substances, such as industries or some forms of horticulture. As well as endangering the health of people, animals and the environment generally, these substances also limit the future use of land. While a few sites are known to the Council, there are likely to be a number of sites that are unknown or have yet to be investigated. The Council is continuing to the work with Hawke's Bay Regional Council to identify, categorise, and where necessary, work with the site owner to remediate sites as they are identified.

In 2011, the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health was introduced (NES Soils). This requires any piece of land which has contained a 'HAIL' activity (Hazardous Activities and Industries List) to address the NES when subdividing, or changing use. The NES requirements are more stringent than Operative District Plan provisions and therefore, the previous data presented under this indicator will be obsolete.

As the NES Soils is relatively recent, there is not enough reliable data to establish a trend. Therefore, the next State of the Environment Report will develop new indicators that relate to the NES Soils.

Responses

For Council

- Continue to work with the Hawke's Bay Regional Council and landowners to identify and appropriately manage contaminated sites in the District
- Draft new indicators that reflect the changes to the way contaminated sites are managed.

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TE KAUNIHERA O HERETAUNGA