



HASTINGS DISTRICT COUNCIL - TE KAUNIHERA O HERETAUNGA

STATE OF THE ENVIRONMENT REPORT
KO TŌ TE TAIAO



2008



Introductory Message from the Mayor & Chief Executive

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 2008.

State of the environment monitoring provides Council and the community with access to information on the state or condition of our environment, enabling us to identify key environmental pressures and, from this information, then assess responses to those pressures. 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 as custodians/kaitiaki of the environment.

This Report is an important first step in identifying what state our District's environment is in. The Report acknowledges that there are gaps in the information that we as a community hold, and that there are areas yet to be covered – such as the state of our urban stormwater, and further incorporation of mana whenua customary values which would add a further dimension to our state of the environment reporting. We expect to include this in future reporting, with the identification of further key indicators and collection of additional data. Council has already changed the way that some data is being collected to provide more useful information for future reporting as a result of the gaps that have been identified. We are confident that this first Report provides a solid foundation for fine tuning how and what information we ought to collect and how we report that data in future.

Because this Report is a snapshot in time, it has not included all of the great work that Council and the community have been undertaking since 31 December 2008; the District Plan Review, the Heretaunga Plains Urban Development Strategy (HPUDS), the Landmarks Strategy, the Three Waters works programme and Ararau the Draft Arts Culture and Heritage Strategy. All of these plans and strategies will provide useful information for the next State of the Environment Report and in turn, the State of the Environment Report will provide useful information for the plans and strategies that will influence the state of our environment in the future.

The Council has committed to a sustainable development approach as a central tenet 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 the environment 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.



“Ki te hāhōe he whakakitenga Ka ngaro te whenua”

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



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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 first 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

This is the first State of the Environment Report for Hastings District. It depicts the state of the District's environment as at 31 December 2008.

A brief 16-page overview of the state of the environment for Hastings was produced in March 2003, focussing more on raising public awareness, and providing sources of further information.

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

- development of an initial list of indicators that would tell us useful information about the state of the District's environment;
- determining what supporting data is available and being collected by Hastings District Council and other organisations (including how that data is currently being collected, how useful that data is in its current form, and in many cases, adjusting the list of indicators to match available data); and
- turning the data into something meaningful;

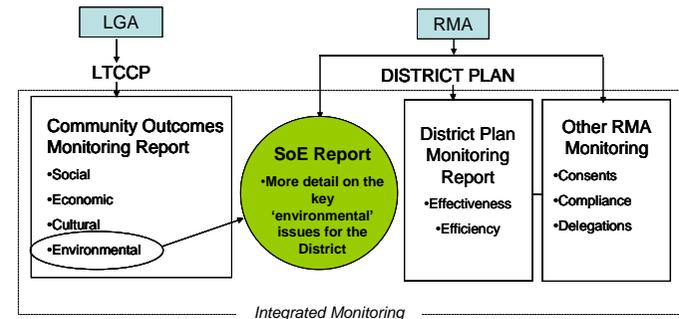
with the intention of setting in place many of the systems needed to enable monitoring of trends for future reporting.

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 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.

Figure 1: Monitoring Framework



This Report depicts the state of the environment for Hastings District as at 31 December 2008. 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 with specific responsibility for the effects of land use activities on natural hazards, hazardous substances, contaminated land, indigenous biological diversity, noise, and the surface of rivers & 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 & 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, available at:

<http://www.hbrc.govt.nz/ReadAboutIt/StateoftheEnvironment/tabid/247/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).

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 & Its People

OUR DISTRICT

The District covers a land area of 521,732 hectares (5,217 km²). 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 to 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 & peaches, and second largest producer of grapes & wines.

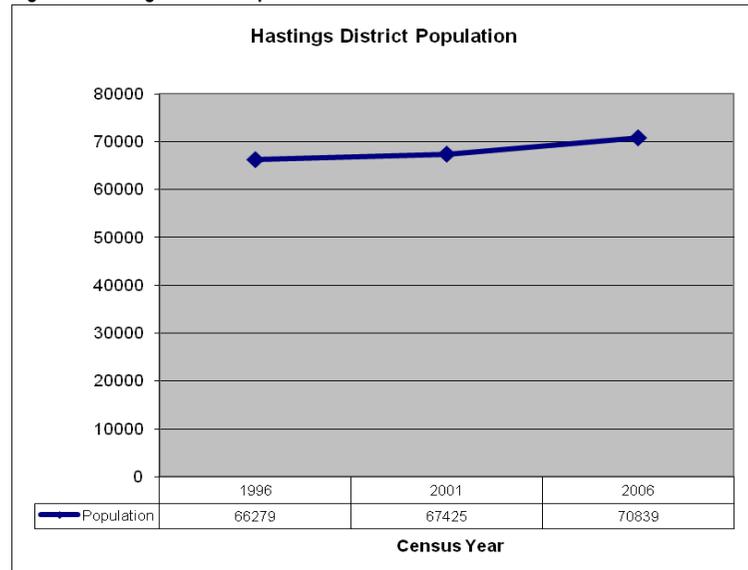
Hastings District is renowned for its fertile soils, plentiful clean water and beautiful scenery, so the quality of our environment and its protection for future generations is very important to us.

OUR PEOPLE

District Population:

The Hastings District is home to 70,839 people (recorded at the last Census in 2006). Since the 1996 census, the population of our District has grown by around 6.9%.

Figure 3: Hastings District Population



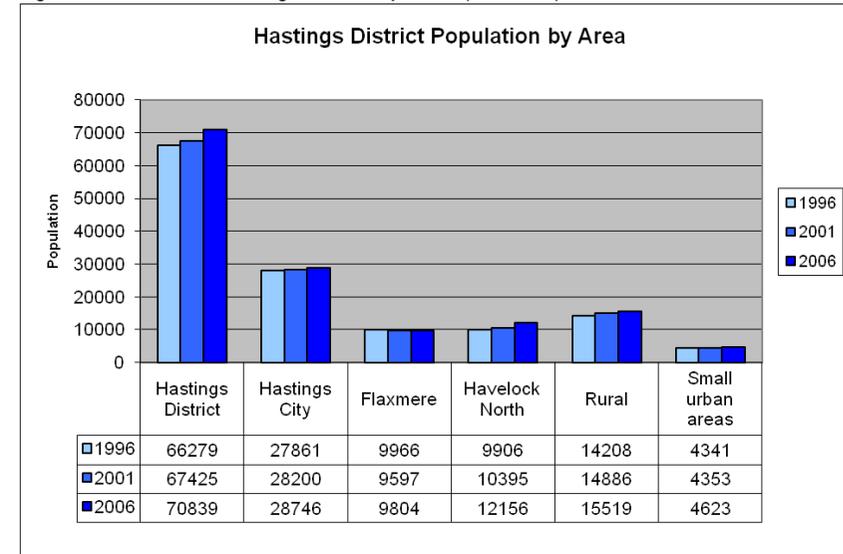
Source: Statistics New Zealand

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

Hastings ranks 14th in size out of the 73 Districts in New Zealand and represents 1.8% of New Zealand's population.

As can be expected, the majority of the District's population reside in the urban areas of Hastings City (41%), Havelock North (17%), Flaxmere (14%), and the small urban areas of Clive, Whakatu & Haumoana (7%). Approximately 22% of our population live in the rural areas of the District.

Figure 4: Distribution of Hastings District Population (1996-2006)



Source: Statistics New Zealand

The distribution of the population within our District has altered over the 10 years to 2006, with the population residing in Hastings City and Flaxmere remaining relatively stable (3.2% increase & 1.6% decrease, respectively), with more significant change in the population residing in the small urban areas (6.5% increase), the rural areas (9.2% increase) and, most noticeably, Havelock North (increasing 22.7%) over 1996 figures.

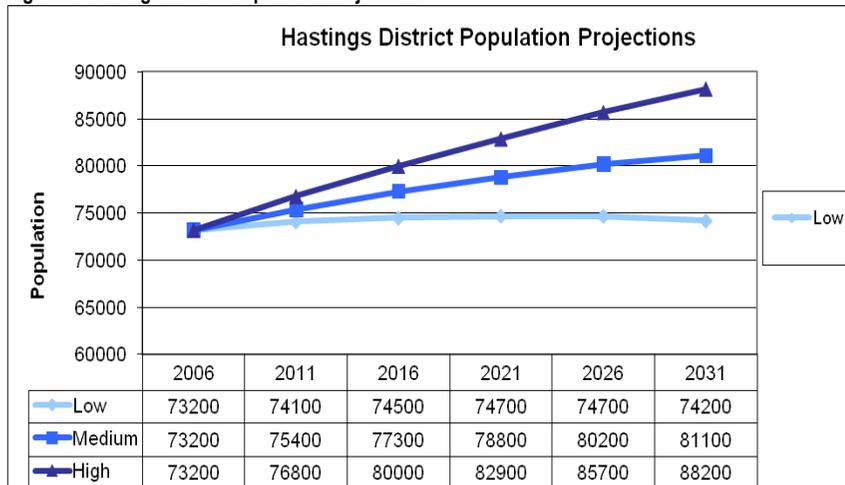
In particular, over the 10-year period to 2006, the Havelock North areas of Te Mata and Havelock Hills experienced a 97% & 53% increase in population respectively.

The rural areas exhibiting the greatest change in population are Sherenden-Puketapu, Waimarama, Maraekakaho & Tangoio – with all four of these areas exhibiting a 20-30% increase in population since 1996. These areas are desirable lifestyle areas.

The township of Clive has also experienced a significant increase over this time (15%). Clive's location half-way between the two main centres of Napier and Hastings may explain this.

The medium series for population projections⁴ suggest that our District will grow to 81,100 people by the year 2031. This equates to an increase of 10.8% (7,900 people) over the 25 years from 2006 to 2031. However, under the high series projections, we could experience a 20% increase over that same period (an additional 15,000 people).

Figure 5: Hastings District Population Projections



Source: Statistics New Zealand

Looking back at previous projections⁵, population growth for the Hastings District has consistently exceeded the Statistics New Zealand medium series projections of the past.

Hastings District has been experiencing a 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.

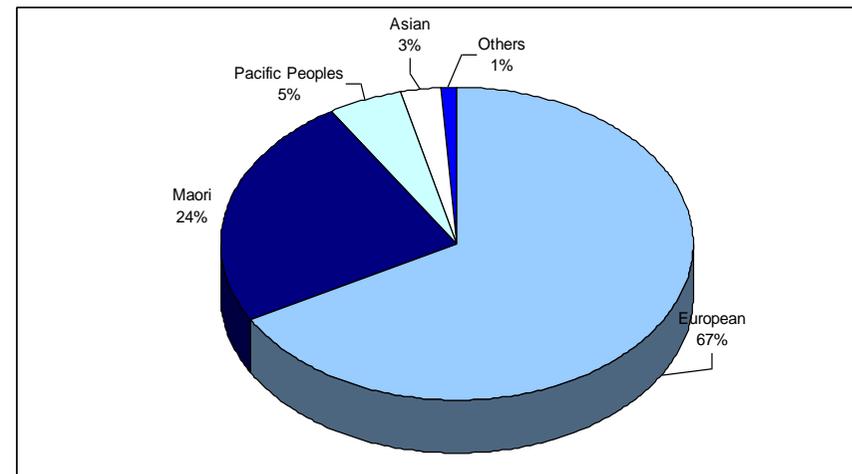
⁴ Statistics New Zealand adopt a series of projections based on varying fertility, mortality and migration rates – low, medium and high series projections.

⁵ 'Hastings Urban Development Strategy', 1993 (and its reviews in 1999 and 2005), Hastings District Council.

Ethnic Composition:

From Census 2006 figures, a higher proportion of us identify as Maori (23.8%) compared with 14.6% nationally, and 67% of us identify ourselves as belonging to the European ethnic group (similar to the national figure of 67.6%).

Figure 6: Ethnic Composition of Hastings District



Source: Statistics New Zealand⁶

A total of 16,236 Maori usually live in the Hastings District. This is an increase of 864 people (or 5.6%) since Census 2001.

This makes the Maori population in our District 12th in size out of the 73 Districts in New Zealand and 2.9% of New Zealand's total Maori population.

Ethnic population projections to 2021⁷, suggest the relative proportion of people identifying themselves as Maori in the District under the medium series projections will

⁶ Total proportions of ethnic groups are based on 100% population. It should be noted however that people can and do choose to identify with more than one ethnic group.

⁷ Subnational ethnic population projections (2006-base), September 2008, Statistics New Zealand

increase from 24% in 2006 to 27% in 2021, while people identifying as European will drop from 77%⁸ in 2006 to 73% in 2021.

The high series projections suggest 29% of the District's population will identify themselves as Maori, and 79% as European, by 2021.

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.



(Source: Hastings District Council)

⁸ This number is higher than that provided in Figure 6, reflecting that ethnic populations are not mutually exclusive because people can and do identify with more than one ethnicity. Census data includes people in each of their reported ethnic groups, resulting in some double entries. Hence, ethnic population projections are used as guidelines and an indication of the overall trend, rather than as exact forecasts.

Environmental Values

Sustainability

Sustainability is a term used interchangeably with concepts such as environmentalism or being 'green'. But 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"⁹. 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; 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 increasing burden on the planet. The environmental impacts of our consumption and production patterns can be severe and inefficient.

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 future¹⁰.

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/>

⁹ *Our Common Future*: Report of the World Commission on Environment and Development (1987), Oxford: Oxford University Press (Brundtland Report).

¹⁰ *Sustainable Communities: People Places & Prosperity*, 2005, Office of the Deputy Prime Minister (ODPM), HM Government, London.

Mana Whenua Customary Environmental Values

CUSTOMARY MAORI FRAMEWORK AND ENVIRONMENTAL VALUES – WHAKAWHANAUNGATANGA, KAITIAKITANGA AND TIKANGA

In Maori society, ancestry and occupation are the elements that determine customary law relating, in particular, to the land and environmental resources and the right to use those resources.

Whakapapa (ancestry) is the source of rights from which *mana* (authority) is derived. These rights are exercised and maintained through *whakawhanaungatanga* (vertical and horizontal relationships). *Whakawhanaungatanga* governs the system of *kaitiakitanga* (stewardship, conservation and protection) according to the protocols demonstrated in *tikanga* (the regulations of stewardship).

- Customary rights based on ancestry and occupation is a collective legacy that is sourced in *whakapapa*.
- Authority is *mana* derived from *whakapapa*.
- *Whakapapa* is inherited through *whakawhanaungatanga*. *Whakawhanaungatanga* is managed under *kaitiakitanga* and regulated through *tikanga*.

A further element of customary law is the right of conquest. Through conquest, rights can be inherited by an individual when ancestry and occupation have been overridden.

THE MAORI WORLD VIEW: CREATION AND THE SPIRITUAL REALM

Through the creation korero of Maui, and the spiritual realm, the customary framework is enlivened and has been maintained through oral traditions.

The creation korero explains that all creation is part of a universe personified through gods. The gods guide over separate parts of the environment including the sea, the forests, the land, and the air. The gods play a part in the natural processes of the environment and the tension of those processes that can be created.

The processes and the tension of those processes, creates the landscapes we see and are part of. The landscape is considered to be an historical record and it is viewed within a framework in which the environment shapes knowledge and behavior.

The metaphysical and oral traditions of the creation korero are visible in the *whakairo*, *tuku tuku*, *raranga* patterns and *nga moteatea* (arts, crafts and artifacts). It is through these arts, crafts and artifacts that the landscape and all its features including waterways, mountains, flora and fauna, and all living creatures present, are recorded as part of the spiritual journey of Maori since time immemorial.

Maori see people as a part of the tension created by the natural environmental process, of which the gods play a part. However, people cannot be passive in this process. The responsibility of *kaitiakitanga* requires people to protect the environment from the risk of degradation. The health of the environment and the health of people are integral to each other.

It is this relationship between the health of the environment and the health of the people that informs the responsibility and legacy of value placed on the environment and the management and protection of it.



ENVIRONMENTAL MANAGEMENT AND MAORI PARTICIPATION

The Treaty of Waitangi provides mana whenua with an opportunity to declare and engage *kaitiakitanga*. Mana whenua are engaged with the Council on development and environmental management issues where those issues are administered by the Council. Whether it be consent applications processed under the Resource Management Act 1991 (the Act) or the preparation of plans and strategies prepared under the Act, or the Local Government Act 2002, the Hastings District Council ensures mana whenua are consulted and included in the decision making processes.

The Council maintains a consultation database and has formed relationships with mana whenua through land trusts and marae. In 2005, a Hastings District Council Maori Joint Committee was established.

Summary of the State of the Environment

Key Symbolising the State of the Resource



BASELINE

baseline information from which future trends will be measured



GETTING BETTER

marked improvement in the state of the resource



STEADY

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



GETTING WORSE

marked decline in the state of the resource

State of the Environment Issue	Overall State	Page	Summary	Indicator Reference(s)	Related Indicators
Sustainable Land Use					
Land Use		18	<p>The district's land cover is divided as follows: ~94% grassland/vegetation cover, ~4% crops/orchards/vineyard cover, ~0.5% built up urban land cover.</p> <p>The Rural Zone makes up ~93% of the District, the Plains Zone ~6%, and urban zones make up ~0.6%.</p>	LU1& 2	SD3, VS5
Sustainable Urban Development		22	<p>Demand for new dwellings has increased, peaking in 2005. Demand for infill subdivision has also increased, peaking in 2007. These peaks coincide with strong economic growth experienced during the period this Report applies.</p> <p>Steady demand has been seen for new Residential and Rural Residential zone areas.</p>	SD1 – 4	LU2, VS2, VS3, VS5, CA1, CA2, NH1 – 3
Protection of Versatile Soils		29	<p>Approximately 13% of the District is Class I, II & III soils.</p> <p>Demand for dwellings in the rural area increased, as did demand for subdivision in Rural /Plains zones, both peaking in 2005/06.</p> <p>There has been steady uptake and demand for farm parks and to rezone Plains and Rural zones to residential. Approximately 80% of Plains land rezoned since the District Plan was made operative were within areas identified by Council for future urban growth.</p>	VS1 – 7	LU2, SD1 – 3

State of the Environment Issue	Overall State	Page	Summary	Indicator Reference(s)	Related Indicators
Air & Water Sustainability					
Air Quality		38	<p>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.</p> <p>However PM₁₀ levels in the Hastings Airshed consistently exceed National Environmental Standards for Air Quality on more than one occasion each year during the winter months (28 days in 2008). Arsenic concentration in the District's air also exceeds air quality guidelines in the Hastings Airshed.</p> <p>Residents' level of concern regarding air pollution is high, and has worsened since 2005. In 2008, ~47% of residents surveyed were concerned or very concerned about air pollution.</p>	AQ1 & 2	
Water Quality		41	<p>Hawke's Bay Regional Council monitoring indicates that groundwater quality in the Hastings District (particularly the Heretaunga Plains aquifer) is very high.</p> <p>Marine water quality is also consistently very good, although correspondingly poor in lagoon and estuarine areas.</p> <p>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. Comparisons show that for the 32 monitoring sites located with the Hastings District, 13 sites compare better than national and regional values, a further 17 sites are in line with those values, and 2 sites fall short.</p>	WQ1	CA3, CA4, WS5, WS6

State of the Environment Issue	Overall State	Page	Summary	Indicator Reference(s)	Related Indicators
Amenity, Character & Heritage Management					
Residential Amenity		46	<p>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.</p> <p>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.</p> <p>There is a shortfall in the neighbourhood reserve provision of open space in the District. Residents rate the District highly as a safe place to live, satisfaction with parks and reserves and accessibility to recreational facilities. 87% of residents highly rate the quality of life in the District.</p>	A1 – 10	AQ1, NC1, H1, H2, T5, T6, T7, WS6, WW4
Coastal Amenity		57	<p>Subdivision in coastal settlements mainly occurred in Waimarama and Waipatiki. Rezoning to residential was approved for Tangoio Beach, while the rezoning for Ocean Beach was withdrawn.</p> <p>Marine water quality is generally good, but freshwater/estuarine areas continue to have poor water quality. Bacterial levels improved in Puhokio Stream.</p>	CA1 – 4	WQ1, NC1, NH1 – 3

State of the Environment Issue	Overall State	Page	Summary	Indicator Reference(s)	Related Indicators
Natural Heritage/Landscape Character		65	<p>3.4% of Hastings District contains a significant landscape character area or outstanding natural feature. Increasing subdivision and land use consents are affecting these areas.</p> <p>1.6% of total land in the District contains an identified area of significant indigenous vegetation or significant habitats of indigenous fauna.</p>	NC1 – 3	SD1, VS2, VS3
Cultural & Historic Heritage		73	<p>There are 123 outstanding trees, 88 heritage items, 3 heritage areas, 4 heritage buildings, 63 waahi tapu sites and 1,204 archaeological sites identified in the District. There were a low number of consents to modify or destroy heritage items or waahi tapu areas. There were 18 authority applications (to the Historic Places Trust) to modify or destroy an archaeological site.</p> <p>Around 79% residents are satisfied with the public art and cultural opportunities in the District.</p>	H1 – 4	SD1, SD3, VS2, VS3, VS5, CA1
Sustainable Infrastructure					
Transportation		81	<p>There is an increasing number of motor vehicles per household in the District. 'Private Car' is the favoured means to travel to work, however bus passenger numbers are slowly increasing. Cycling to work is higher than the national average but declining in the District.</p> <p>Higher crash and casualty rates are occurring than the national average but a gradual improvement is occurring. 73% of residents are satisfied with the Districts roads, however they have a low feeling of safety when cycling.</p>	T1 – 7	AQ1, A3, A5, A6, A10

State of the Environment Issue	Overall State	Page	Summary	Indicator Reference(s)	Related Indicators
Water Management	 STEADY	92	<p>The District has consents to draw 586,000m³ of groundwater (7 day average) for public water supply. Our domestic water consumption is relatively steady at around 558 litres per person per day. Commercial and industrial consumption is also relatively stable about 1,600,000 cubic litres per year.</p> <p>Most of the District's community supplies comply with NZ drinking water standards. Waipatiki water supply does not comply as it has poor source water quality. 78% of residents are satisfied with their water quality (rising to 95% for those connected to a Council supply).</p>	WS1 – 6	A10
Waste Water Treatment	 GETTING BETTER	99	<p>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 53,000m³ and are well within environmental standards. Waipatiki has not been operational long enough to report compliance. 73% of residents are satisfied with their sewerage system (rising to 92% for those connected to a Council system).</p>	WW1 – 4	WQ1, A10, TW1, TW2
Trade Waste Disposal	 GETTING BETTER	105	<p>The separated trade waste system had not had a full year of measured operation so there is insufficient data to report on. 22 industries are connected to the separated trade waste system. Since July 2005, 22 non-compliance notices were issued and 1 consent was cancelled (subsequently re-issued).</p>	TW1 & 2	WW1 – WW4, HS1, HS2, HW1, CS1



Energy Use		108	<p>Electricity demand for Hawke's Bay Region increased by 17% between 2003 and 2008.</p> <p>Five organisations completed energy efficiency projects.</p> <p>Hastings District Council completed a Level One Energy Audit of its twenty highest energy consuming facilities, and commenced other energy efficiency initiatives.</p>	E1 & 2	
Hazard Management					
Natural Hazards		112	<p>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.</p> <p>Resource consents in identified hazard areas rose between 2003 and 2008 with a peak in 2007 of 44 consents (over double 2004 numbers).</p>	NH1 – 3	SD1, SD3, VS2, VS3, A6, CA1, CA2
Hazardous Substances		122	<p>4 resource consents between 2004 and 2008 were required as a result of applying the hazardous facility screening procedure.</p> <p>An average of 40 reported incidents per year occur involving hazardous substances spills.</p>	HS1 & 2	A6, TW1 – 3, SW1, SW3, HW1, CS1



Sustainable Waste Management					
Solid Waste		128	<p>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 in the 5 years to 2008.</p> <p>There has been a 12% decrease in solid waste sent to the District's Refuse Transfer Stations, and 20% decrease in the overall amount sent to the Landfill from Napier and Hastings, since 2004/05. Recycling in the District has increased significantly, up almost 40% in the 3 years to 2008. 80% of residents are satisfied with recycling facilities in the District, and 86% of households say they are using the services provided.</p> <p>In 2007, the largest proportion of solid waste to the Landfill was putrescibles (42%), followed by plastic products (12%) and paper (12%). These all offer potential for further diversion of waste from the Landfill.</p>	SW1 – 5	HW1
Hazardous Waste		135	<p>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 was collected across the Hawke's Bay Region. Visits to the Hastings collection peaked in 2007 at 404 vehicles.</p> <p>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.</p>	HW1	A6, HS1, HS2, SW2, CS1



Contaminated Sites		139	<p>At present, there are only 2 confirmed contaminated sites in Hastings District – the former Hastings Gas Works and the closed landfill at Roy’s Hill. These sites are being managed and/or remediated.</p> <p>There are further sites within the District that are on Hawke’s Bay Regional Council’s Land Use Register, which have been identified as properties where hazardous substances are, or may have been, used or stored. The Land Use Register forms the basis for further identification, verification and investigation.</p>	CS1	A6, HS1, SW1, HW1
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Sustainable Land Use

The Issue at a Glance			
Indicator		State	Summary
Land Use			
LU1	Land cover classes		~94% grassland/vegetation cover, ~4% crops/orchards/ vineyard cover, ~0.5% built up urban land cover.
LU2	Land use zones		~93% Rural Zone, ~6% Plains Zone, ~0.6% urban zones.
Sustainable Urban Development			
SD1	Building consents for new dwellings		Demand for new dwellings increased, peaking in 2005.
SD2	Infill subdivision in the Residential Zones		Demand for infill subdivision increased, peaking in 2007.
SD3	Plan change requests for rezoning from rural to urban		Steady demand for new Residential and Rural Residential zone areas.
Protection of Versatile Soils			
VS1	Versatile soils in the District		~13% Class I, II & III soils.

The Issue at a Glance			
Indicator		State	Summary
VS2	New dwellings in the Rural/ Plains Zones		Demand for new dwellings increased, peaking in 2005/06.
VS3	Subdivision in the Rural/ Plains Zones		Demand for subdivision in Rural/Plains Zones increased, peaking in 2005/06.
VS4	'Farm Park' subdivision in the Rural Zone		Steady uptake of Farm Park provisions.
VS5	Rezoning of Rural/ Plains Zone land		Steady demand to rezone Plains & Rural Zone land, ~80% of land affected by Plains rezoning was within strategically identified urban growth areas

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 30 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. Where there is a loss of vegetation, this can result in erosion and decline in 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 table below 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.

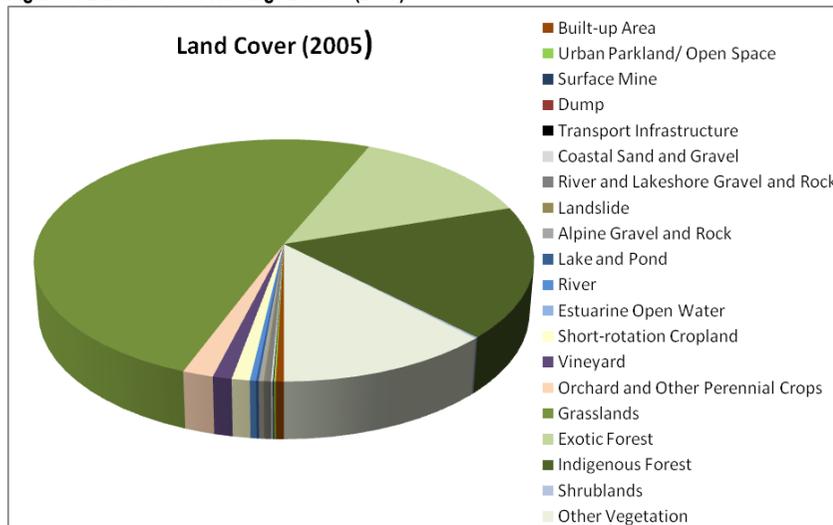
Indicators for Land Use				
Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
LU1	Land Cover Classes	State	<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. The Hawke's Bay community is well informed and educated about the environment. 	Section 1.5.2 (The Structure of the District Plan): <i>The District Plan recognises that the effects of activity differ by location, intensity, and as a result of particular environmental characteristics. The District Plan introduces a range of Zones, Resource Management Units and District Wide Activities, to enable the effects of activities to be effectively and discretely managed.</i>
LU2	Land Use Zones	State & 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.

Figure 7: Land Cover of Hastings District (2005)



Source: Land Cover Data Base 2 (LCDB2), Terralink Ltd

The grassland land cover classes make up just over half of the District's land area (~51%, 263,820ha), followed by exotic forests (~14%), indigenous forest (~18%), and other vegetation & shrubland classes (a further ~12%).

'Orchards and Other Perennial Crops' cover 9,201ha (~2%), 'Short-rotation Croplands' cover 5,345ha (~1%), and 'Vineyards' occupy 5,642ha (~1%).

Table 2: Summary of Land Cover of Hastings District (2005)

Land Cover	Hectares	% of Total
Total Grassland, Forest & Other Vegetation (Classes 40-69)	491755.66	94.23
Total Orchard, Crop & Vineyard (Classes 30-32)	20187.86	3.87
Total Built-Up & Urban Parkland/Open Space (Classes 1 & 2)	2913.07	0.56
Other Land Cover e.g. open water, infrastructure, non-vegetated (Classes 3-22)	7003.59	1.34

Source: Land Cover Data Base 2 (LCDB2), Terralink Ltd

The grouping above indicates that over 94% of the District is covered in grasslands, forest and other vegetation, which represents traditional rural land, and just 3.87% of the District's land is in orchard, crop and vineyard which traditionally occupy the more versatile soils.

The built up area and urban parkland/open space areas account for approximately 0.56% of the land cover.

Indicator LU2: Land Use Zones

The Hastings 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 described 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.

Special Character Zones (Te Mata & Tuki Tuki): roughly based on the provisions of the Rural Residential Zone but with special provision for lifestyle development reflecting their particular locational characteristics at the interface with the urban area of Havelock North and the Plains Zone.

Residential Zones: cover the main urban residential areas and settlements, and areas identified for future residential expansion¹¹.

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.

The following table shows the area of land within each District Plan land use zone, as at the end of 2008.

Table 3: Area of Zoned Land Use in Hastings District

Area of Zoned Land Use in Hastings District		
Zones	Area (hectares) as at 2008	
Rural	Rural	473,167
	Plains	29,580
	Total Rural	502,747
Rural Residential	Rural Residential	1,265
	Te Mata Special Character	502
	Tuki Tuki Special Character	1,767
	Total Rural Residential	3,534
Residential	General Residential	2,002
	Deferred General Residential	5
	Plains Residential	26
	Coastal Residential	117
	Total Residential	2,150
Commercial	Central Commercial	49
	Commercial Service	29
	Large Format Retail	32
	Suburban Commercial	31
	Central Residential Commercial	6
	Total Commercial	147
Industrial	Industrial 1	35
	Industrial 2	410
	Deferred Industrial 2	8
	Industrial 3	4
	Industrial 4	88
	Industrial 5	1
	Industrial 6	54
Total Industrial	600	
TOTAL (excluding rivers/lakes, roads & restricted building areas)		509,178

Source: Hastings District Council

Currently, the single largest zone in the Hastings District is the Rural Zone – which comprises 92.9% of the District's total land area. The second largest zone is the Plains Zone (5.8%). The Rural Residential Zone comprises 0.7% of the total land area. The remaining 0.6% of the District's land area makes up the urban areas.

¹¹ 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.

Hastings District comprises approximately 98% vegetated land cover, and approximately 98.7% of the District is zoned Rural or Plains Zone.

Land cover and zoning allocation typically reflects a rural provincial area in New Zealand.

RESPONSES

For the Community

- N/A

For Council

- Continue to monitor changes in land cover and land use patterns (zoning) over time, to determine/confirm those areas of the District experiencing significant change or pressure.



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 generates 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, 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

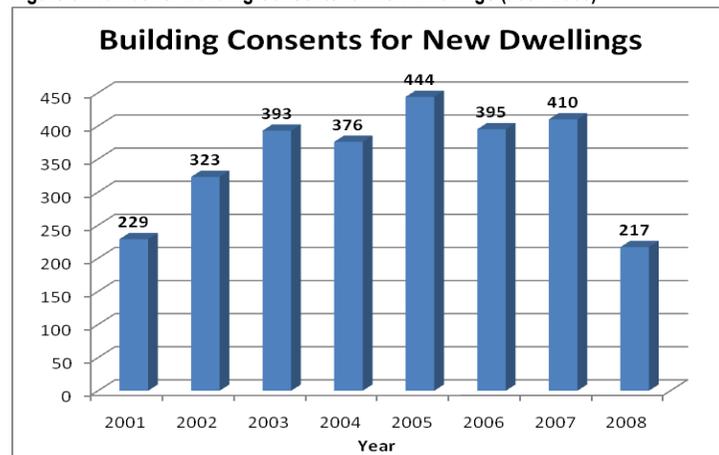
Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> An environment that is appreciated protected and sustained for future generations. Safe & secure communities. A lifetime of good health and wellbeing. Development in Hawke's Bay is sensitive to the need to protect and promote environmental wellbeing. 	<p>Section 2.4.6 (Urban Development & Strategic Urban Directions):</p> <ul style="list-style-type: none"> 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. <p>Section 2.6.6 (Low Density Residential Strategy):</p> <ul style="list-style-type: none"> 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. <p>Section 8.6 (Residential Zones)</p> <ul style="list-style-type: none"> Consolidation and infill development compatible in scale and character with existing development.
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 providing safe, secure and sustainable communities, which also has benefits for the health and wellbeing of the District's residents.	
SD2	Infill Subdivision in the Residential Zones	Pressure	Infill subdivision provides for residential development 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.	
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 shows the number of building consents for new dwellings for each year between 2001 and 2008.

Figure 8: Number of Building Consents for New Dwellings (2001-2008)



Source: Hastings District Council

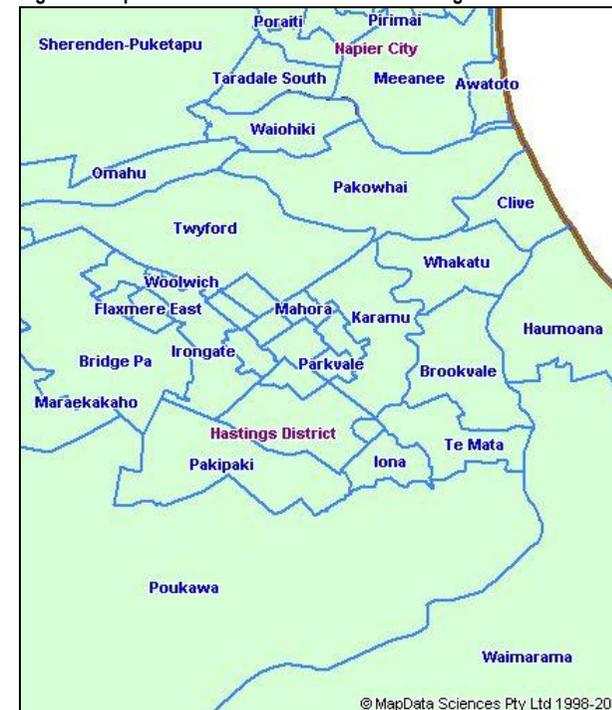
In the period between 2001 and 2008, there were 2,787 building consents granted and activated for new dwellings in the Hastings District.

After a decade of slow growth (around 150 new dwellings per year in the late 1990's), the District has experienced a significant period of growth to 2008. Each year between 2002 and 2007, there were over 300 new dwellings consented. Consents for new dwellings peaked at 444 in 2005 (twice that for 2001 and 2008). These statistics reflect population growth and a buoyant economy over that period.

Approximately 18.4% of all new dwellings between 2001 and 2008 were in the Te Mata Census Area Unit (513 dwellings) with another 5% in the Havelock Hills Census Area Unit (138 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 2001 & 2006 (with an increase of almost 1,500 additional people residing in those census area units over that 5 year period).

Figure 9: Map of Urban Census Area Units in Hastings District



Another area experiencing significant growth was in the Frimley Census Area Unit (CAU), which experienced a 5.6% increase in new dwellings (or 155 new dwellings – almost 100 of which were consented in 2007 & 2008). This growth reflects the Greenfield development of Lyndhurst.

Figure 10: 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 (5.8% or 163 new dwellings)
- Waimarama CAU (5.0% or 138 new dwellings)

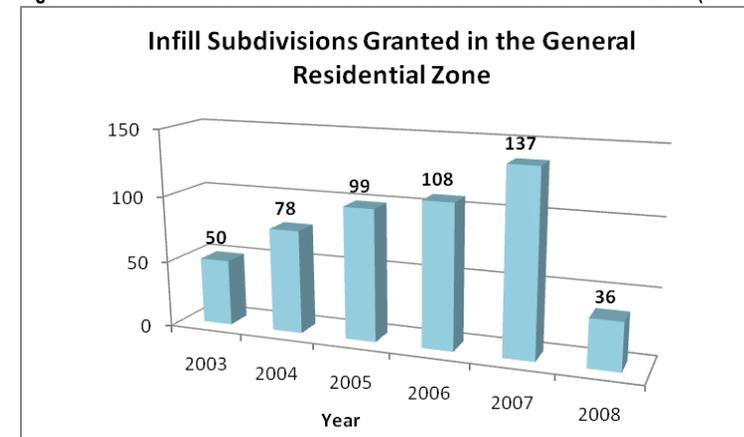
Indicator SD2: Infill Subdivision in the Residential Zones

Infill development often represents an efficient form of urban development. The Urban Development Strategy (HUDS¹²) targets consolidation/infill at 15% of all new development by 2026 (see HUDS Growth Strategy Parameters diagram in Figure 14).

There has been a high rate of infill subdivision¹³ in the urban residential areas of the District (General Residential Zone) over the reporting period. The level of infill subdivision likely reflects people taking advantage of the buoyant property market over this period and the advantage of existing facilities/infrastructure. It may also reflect current urban containment policies and rules that act to discourage development in the Plains Zone, and ease development in established urban areas.

Council's development levies increased in July 2007, and anticipating this likely contributed to the peak in 2007.

Figure 11: Number of Infill Subdivisions Granted in the General Residential Zone (2003-2008)

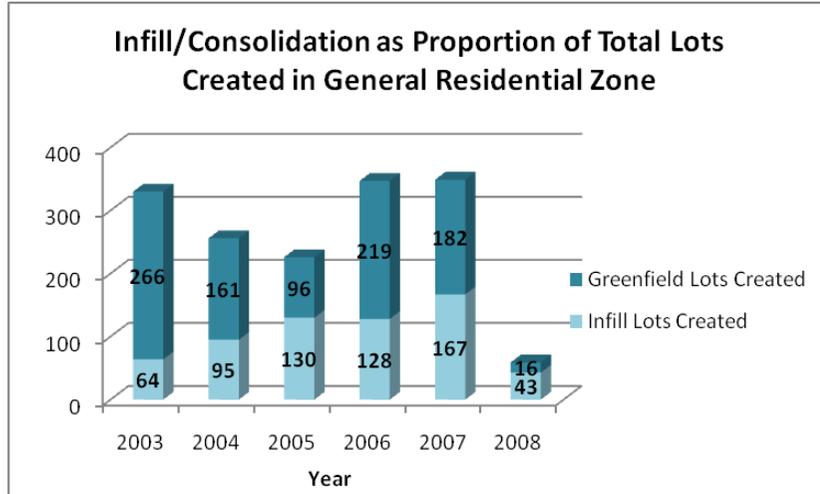


Source: Hastings District Council

¹² Hastings Urban Development Strategy, 1993 (and its reviews in 1999 and 2005), Hastings District Council.

¹³ For the purpose of this report, infill subdivision is considered to be those creating fewer than 5 new lots (5 lots or more are considered Greenfield subdivision), and excludes boundary adjustments, rights of way, and freehold of crosslease titles.

Figure 12: Infill/Consolidation Lots Created, as a Proportion of the Total Lots Created in the General Residential Zone (2003-2008)



Source: Hastings District Council

The number of infill lots created as a proportion of all lots created in the General Residential Zone between 2003 and 2008 has been significant. In 2005 and 2008, new infill lots created exceeded new Greenfield lots. Infill/consolidation has accounted for 40% of all new lots created in the General Residential Zone over this period.

Since August 2007, the amount of subdivision (greenfield and infill) in the General Residential Zone has decreased markedly as economic conditions deteriorated.

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 15 plan changes to rezone Plains or Rural zoned land for urban and low density residential development purposes.

Of these, 12 were privately-initiated – and of these 12 privately-initiated requests, 7 were successful, 4 were declined and 1 was withdrawn. The remaining 3 requests were initiated by the Hastings District Council – the largest being associated with development of Lyndhurst in Hastings.

The following tables summarise both the Council-initiated and the privately-initiated requests for rezoning for residential/rural residential development purposes.

Table 4: Plan Changes to the Hastings District Plan (Plains Zone)

Plan Changes: To Rezone Plains Zone			
		Number of Requests	Hectares (approx)
To General Residential or similar	Requested ¹⁴	7	103.5
	Approved ¹⁵	5	75.1
To Rural Residential or similar	Requested ¹⁶	2	84.7
	Approved ¹⁷	1	73.0
Total Plains Zone Area Affected by Residential Rezoning	Requested	9	188.2
	Approved	6	148.8

Source: Hastings District Council

Approximately 188 hectares of Plains Zone land was the subject of plan changes to rezone to some form of urban or low density residential zoning. Of this, approximately 149 hectares was successfully rezoned and 39 hectares declined.

Of the 149 hectares successfully rezoned from Plains Zone, approximately 118 hectares (around 80%) had previously been strategically identified by Council for future residential development through the Hastings & Clive Urban Development Strategies and the Low Density Residential Strategy for the District, to cater for projected demand for greenfield residential development as a result of an increasing population.

¹⁴ Plan Changes 1, 2, 26, 35, 40, 43 & 44.

¹⁵ Plan Changes 1, 2, 26, 35 & 43 (PCs 40 & 44 were declined).

¹⁶ Plan Changes 34 & 36.

¹⁷ Plan Change 34 (PC36 was declined).

Approximately half of those 118 hectares was subject to a Council-initiated plan change – 61 hectares for the identified Lyndhurst Urban Development Area through Plan Change 26 (PC26). This involved rezoning to General Residential Zone.

Privately-initiated plan changes also resulted in rezoning land that had been strategically identified previously by Council. This included requests to rezone a little over 7 hectares in Clive to General Residential (PC1 & PC2), and approximately 50 hectares of the 73 hectares associated with rezoning to Rural Residential around Parkhill and Raymond Roads at Haumoana (PC34) had been identified in the Council's Low Density Residential Strategy.

Table 5: Plan Changes to the Hastings District Plan (Rural Zone)

Plan Changes: To Rezone Rural Zone			
		Number of Requests	Hectares (approx)
To Coastal Residential or similar	Requested ¹⁸	2	49.9
	Approved ¹⁹	1	3.9
To Rural Residential or similar	Requested ²⁰	5	722.3
	Approved ²¹	3	462.0
Total Rural Zone Area Affected by Residential Rezoning	Requested	6	772.2
	Approved	4	465.9

Source: Hastings District Council

The Rural Zone was the subject of rezoning requests to facilitate coastal residential settlement affecting approximately 50 hectares (Tangoio Beach and Ocean Beach²²).

Of these, only 3.9 hectares was approved for coastal residential zoning associated with the bach settlement at Tangoio Beach (PC31) – and a portion of this merely

¹⁸ Plan Changes 31 & 45(part).

¹⁹ Plan Change 31.

²⁰ Plan Changes 19, 24, 25, 32, 45(pt).

²¹ Plan Changes 19, 25 & 32.

²² Plan Change 45 (Ocean Beach) involved rezoning approximately 950 hectares of land in total – only a portion of this was proposed for residential development (approx. 46 hectares) and low density residential development (approx. 141.3 hectares), with the rest remaining in various special character rural and conservation zones.

enabled appropriate zoning of existing baches. The request to rezone land at Ocean Beach (PC45) was withdrawn.

Approximately 722 hectares were subject to requests to rezone to rural residential or similar low density residential zonings, of which approximately 462 hectares were approved. The two private plan change requests not approved were withdrawn (PC45 – Ocean Beach) or declined (PC24 – Enfield/Mutiny Roads).

Council successfully initiated a request to rezone approximately 200 hectares in the Avery/Seafield Road area to rural residential (PC19). Approximately 45 hectares at the end of Aintree Rd, Havelock North, was successfully rezoned by Irinka Ltd (PC25), and 217 hectares off Puketitiri Road (near Napier) was successfully rezoned by Kopaki Bay Ltd (PC32).

Whilst none of these areas were specifically identified in Council long term strategies, Plan Changes 19, 25 & 32 were Rural Zone areas either adjoining existing Rural Residential Zones (either in Hastings District or Napier City) and/or were capable of accommodating a minimum of 20 contiguous sites – being the basic criteria identified in the District Plan for contemplation of any Rural Residential Zone expansion (District Plan Policy LDP4).

Hastings District has experienced a significant period of residential development growth in recent years reflecting a buoyant economy. Much new residential dwelling growth has been accommodated within existing residential areas through infill/consolidation, but there has also been significant demand for rezoning of rural land to accommodate Greenfield development.

The majority (80%) of rural land subject to rezoning has enabled development of areas already strategically identified for growth through Council's various Urban Development Strategies.

RESPONSES

For the Community:

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

For Council:

- Promote best practice land development examples and good practice guidelines.
- Undertake reviews of Council's various Development Strategies, including the Hastings Urban Development Strategy, Clive Urban Development Strategy, Coastal Environment Strategy (as it relates to coastal residential development), and the Low Density Residential Strategy, including the assumptions behind them, and to provide strong guidance and direction for future growth.
- At time of publication, Hastings District, Napier City and Hawke's Bay Regional Councils are currently working together on a Heretaunga Plains Urban Development Strategy (HPUDS) that will see a co-ordinated approach to urban development across the Heretaunga Plains.²³
- Hastings District Council is commencing review of the Hastings District Plan. This will include review of :
 - the policy framework, methods & rules in the District Plan that guide development to ensure a form/design that promotes sustainable development; and
 - the Development Levy policy to consider incentives for more sustainable urban developments.



Photo: Indicative Development Plan for Arataki Urban Development Area – Stage 2
(Source: Hastings District Council)

²³ HPUDS is expected to identify where growth will go from 2015 to 2045 and beyond, the desired density and final form/design, what the sequence of development will be, the criteria for establishing the boundaries to urban growth and the infrastructure needed

Protection of Versatile Soil

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 highly versatile soils of the Heretaunga Plains also coincide with the main urban areas of the District. The Hastings community has identified the importance of managing this precious resource appropriately to conserve the land for the use of future generations through the District Plan and through the Long Term Council Community Plan (LTCCP).

Areas of rural land are often purchased and subdivided into smaller lots for residential and lifestyle purposes, particularly close to townships.

The diversification and intensification of activities in the rural area also means that rural land is being divided into smaller and smaller lots. Land fragmentation can result in a shortage of properties of suitable size for viable farming and horticultural units in the future. In addition, the adverse effects of farming activities are becoming more visible due to increased residential lifestyle development penetrating into rural areas.

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: Hawkes Bay Regional Council)

Indicators for Protection of Versatile Soils

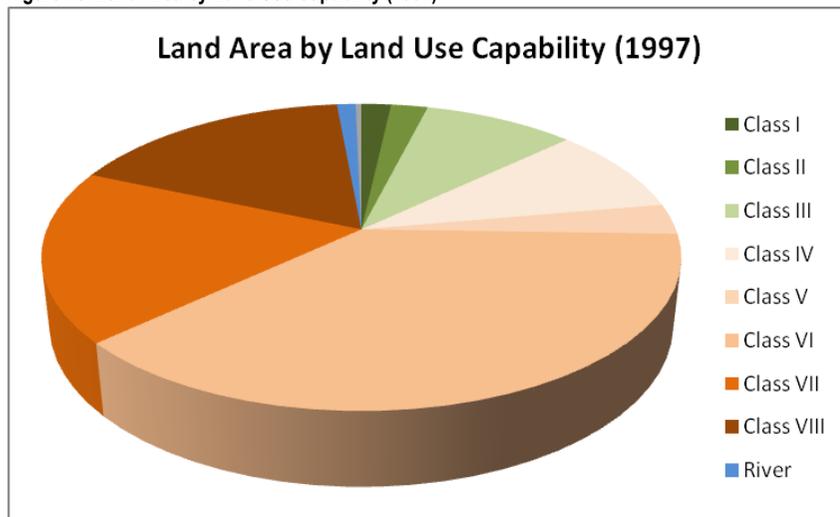
Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. Development in Hawke's Bay is sensitive to the need to protect and promote environmental wellbeing. 	<p>Section 2.4.6 (Urban Development & Strategic Urban Directions):</p> <ul style="list-style-type: none"> 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. <p>Section 2.6.6 (Low Density Residential Strategy):</p> <ul style="list-style-type: none"> 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. <p>Section 2.8.6 (Rural Resource Strategy):</p> <ul style="list-style-type: none"> 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. <p>Section 6.6 (Plains Zone)</p> <ul style="list-style-type: none"> The sustainable management of the Heretaunga Plains soil resource.
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 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.	
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.	

MONITORING INFORMATION

Indicator 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 13: Land Area by Land Use Capability (1997)



Source: LRI Land Use Capability Data, Landcare Research

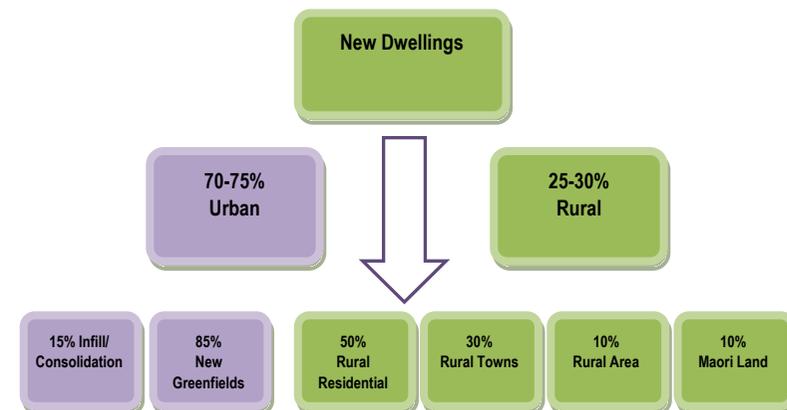
The New Zealand LRI data (including the Land Use Capability data) has not been updated since 1997, and there are currently no plans to review it in the near future.

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.

Growth Strategy Parameters set out in the HUDS Review (1999)²⁴ identified a preferred balanced growth strategy for the Hastings District (see Figure 14 below), 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).

Figure 14: Growth Strategy Parameters to 2026 (HUDS Review 1999)

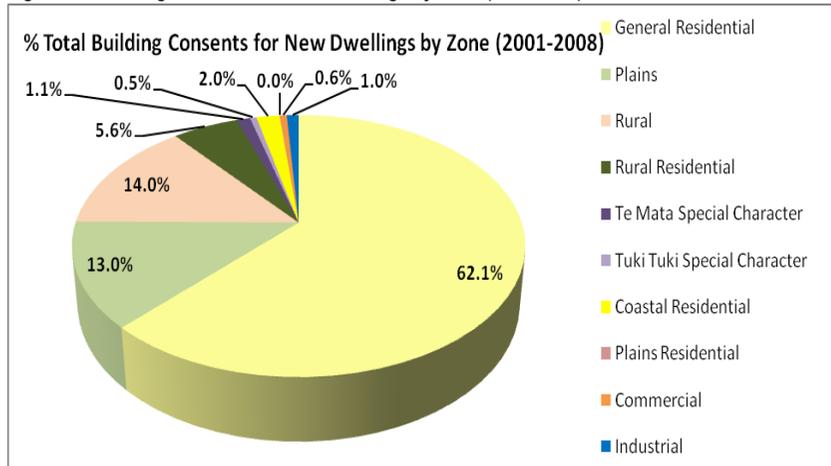


Source: HUDS Review 1999, Hastings District Council

The following chart shows the actual distribution of building consents for new dwellings in the Hastings District by zone, for the period 2001 to 2008.

²⁴ Hastings Urban Development Strategy Review, 1999, Hastings District Council.

Figure 15: Building Consents for New Dwellings by Zone (2001-2008)



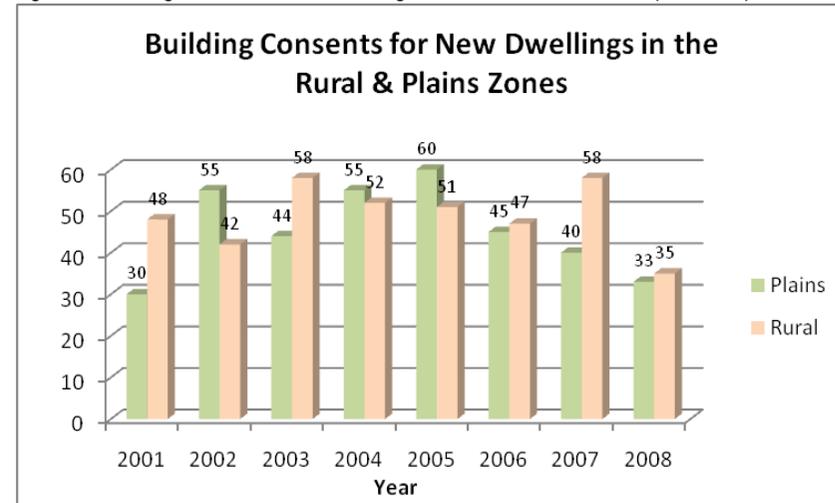
Source: Hastings District Council

Two thirds of all new dwellings between 2001 and 2008 occurred within the urban zones. As expected, this was mostly within the General Residential Zone²⁵ which accounted for 62%. A further 1.6% of all new dwellings were in the urban commercial and industrial zones, and a further 5% in the Coastal Residential Zone.

The remaining third comprised 13% and 14% of new dwellings in the Plains and Rural Zone, respectively. The Rural Residential Zone contributed 5.6%, and the Te Mata and Tuki Tuki Special Character Zones a further 1.6%.

The following graph shows the number of building consents for new dwellings in the Rural and Plains Zone per year between 2001 and 2008.

Figure 16: Building Consents for New Dwellings in the Rural & Plains Zones (2001-2008)



Source: Hastings District Council

Demand for building consents to erect new dwellings in the Rural Zone and Plains Zone shows continuing demand. Building consents for new dwellings in the Plains Zone doubled between 2001 and 2005, but fell back to 33 for the 2008 year.

Interestingly, building consents for new dwellings in the Rural Zone were in the same order as for the Plains Zone. This indicates high numbers of new dwellings in a zone that only comprises 5.8% of the District.

The data suggests that the growth in new dwellings is roughly split according to the Growth Strategy Parameters promoted in the 1999 HUDS Review, being around 70%/30% urban to rural split, but that there is considerably greater new dwellings occurring in the rural areas (27% combined Plains & Rural Zones) than recommended (10%).

Residential development on the Heretaunga Plains in particular, appears to have been occurring at a much higher rate than promoted in the Council's long term urban development strategies.

²⁵ The General Residential Zone includes new dwellings in Clive & Whakatu, which might otherwise be considered 'rural town' in terms of the HUDS Growth Strategy Parameters.

Conversely, the data also indicates that only a fraction of the proportion of new dwellings in the rural area have been in the identified rural residential or special character zones (7.2%). The Growth Strategy Parameters promoted in the 1999 HUDS Review recommended 50% should come from formalised rural residential areas. This suggests either a lack of available rural residential zoned land, or a lag effect as rezonings take time to convert into development areas. It may also indicate the need to reassess the assumptions made in the HUDS review about residential uptake.

It will be important to monitor this indicator over the next few years to determine which scenario applies.

Indicator VS3: Subdivision in the Rural/Plains Zones

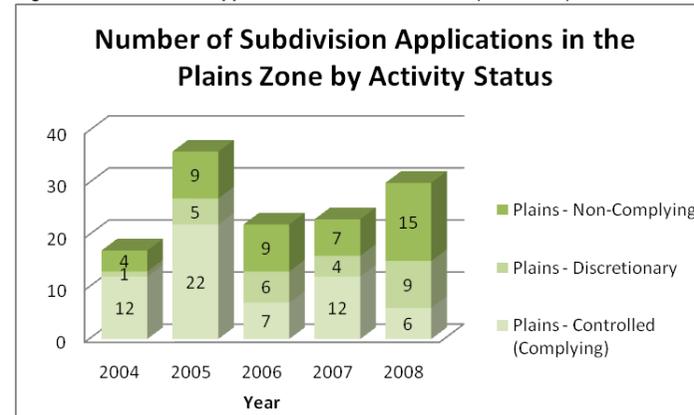
Subdivision can lead to fragmentation of the soil resource, and an increased and accelerated supply of smaller sites may not safeguard the life-supporting capacity of the rural soil resource.

Subdivision in the Plains and Rural Zones reflects fragmentation of the rural land resource. The following graphs show the number of subdivision applications received for the Plains and Rural Zones for the 5-year period to 2008²⁶.

Subdivision applications in the Rural Zone rose from 31 in 2004 to a peak at 70 in 2007 before dropping back to 42 in 2008. The proportion of non-complying subdivisions has remained relatively steady, fluctuating between ~15-25% of subdivisions in the Rural Zone each year.

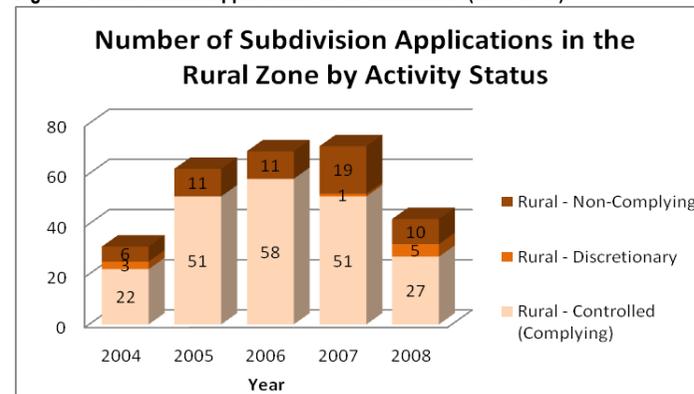
Subdivision applications affecting the Plains Zone have fluctuated over the same period (averaging about 20-25 per year). In the Plains Zone however, the proportion of non-complying subdivisions has been steadily increasing – from ~25% in 2004 to almost 50% of all subdivisions in the Plains Zone in 2008.

Figure 17: Subdivision Applications in the Plains Zone (2004-2008)



Source: Hastings District Council

Figure 18: Subdivision Applications in the Rural Zone (2004-2008)

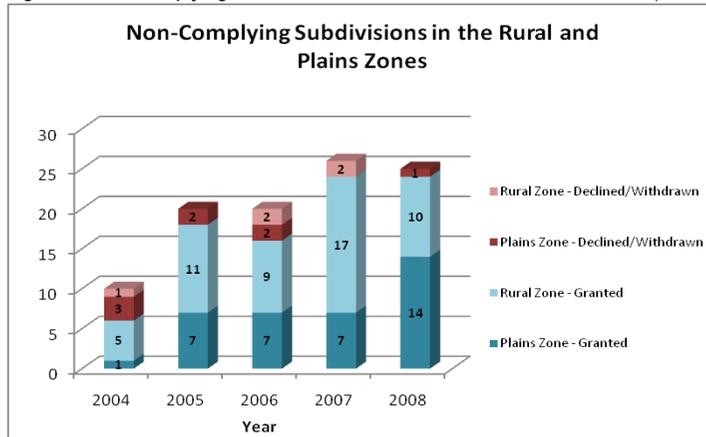


Source: Hastings District Council

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.

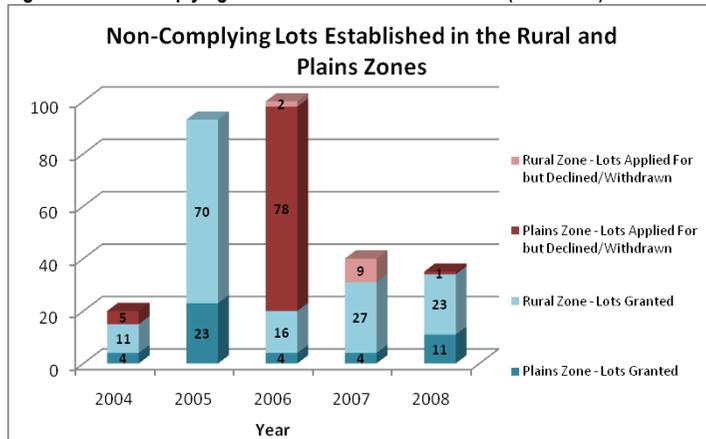
²⁶ The subdivision data used for this indicator excludes any subdivisions solely for the purpose of boundary adjustment, creating rights of way, or amalgamation.

Figure 19: Non-Complying Subdivisions Granted in the Rural & Plains Zones (2004-2008)



Source: Hastings District Council

Figure 20: Non-Complying Lots in the Rural & Plains Zones (2004-2008)



Source: Hastings District Council

The total number of non-complying subdivision applications has increased over the 5-year period to 2008, probably as people took advantage of the buoyant economy and a growing population.

During this period, there were 36 non-complying subdivisions granted in the Plains Zone creating 46 additional lots (19 of which were from a single subdivision in Farndon Road on the outskirts of Clive, granted in 2005); and 52 non-complying subdivisions granted in the Rural Zone creating 147 additional lots. The 78 lots applied for in the Plains Zone in 2006 that did not eventuate, can be largely attributed to the unsuccessful 77-lot subdivision proposed for the Hawke's Bay Golf Course.

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.

The higher number of lots granted in the Rural Zone in 2005 can largely be attributed to a single 42-lot residential farm park subdivision in Whakapirau Road, Raukawa. Residential Farm Parks in the Rural Zone are provided for in the District Plan as discretionary activities where they meet all the relevant subdivision standards and terms. This subdivision was technically non-complying because the parent site failed to meet both the minimum site area and the requirement for one continuous perimeter boundary.

Approximately 70% (63 of 88) of all non-complying subdivisions granted in the Plains and Rural Zones were for just one additional lot or involved amalgamation to avoid additional lots being created, most likely reflecting the carving off of surplus land or dwellings to release capital, and which is generally provided for in the District Plan. Many of these subdivisions were likely non-complying through technical non-compliance with the lifestyle lot size or balance lot size standards in the District Plan.

Almost half of the remainder were for 2 additional lots (12 of 25), and there were only three granted that involved creation of 10+ lots (only 1 of these affected the Plains Zone).

These three were:

- a 19-lot subdivision in the Plains Zone (Farndon Road, Clive) in 2005;
- a 42-lot farm park subdivision in the Rural Zone (Whakapirau Road, Raukawa) in 2005; and

- a 14-lot subdivision in the Rural Zone (Kahuranaki Road, Tuki Tuki Valley) in 2005.

Of these three, the two granted in the Rural Zone were non-complying Residential Farm Park subdivisions.

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 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. Since 2004, there have been 5 residential farm park subdivision applications in the Rural Zone:

- 19-lot subdivision (Tuki Tuki Road), 2004 – discretionary subdivision;
- 17-lot subdivision (Maraetotara Road), 2004 – discretionary subdivision;
- 42-lot farm park subdivision (Whakapirau Road), 2005 – non-complying subdivision;
- 14-lot subdivision (Kahuranaki Road), 2005 – non-complying subdivision; and
- 15-lot subdivision (Aorangi Road), 2008 – discretionary subdivision.

All 5 farm park applications were granted, and represent all the subdivisions in the Rural Zone of the District resulting in excess of 10 lots over this period.

The residential farm park concept is still relatively new to the District, and it will be useful to monitor its uptake into the future.

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.

The following table shows the amount of land subject to plan changes to rezone Plains and Rural Zone land for urban development, both residential and non-residential.

Table 6: District Plan Changes to Rezone in the Hastings District

Plan Changes: To Rezone Plains Zone		
		Hectares (approx)
To General Residential or similar	Requested	103.5
	Approved	75.1
To Rural Residential or similar	Requested	84.7
	Approved	73.0
To Industrial	Requested ²⁷	8.9
	Approved	4.9
To Special Purpose Sports Park	Requested ²⁸	30.2
	Approved	30.2
Total Plains Zone Area Affected by Rezonings	Requested	227.3
	Approved	183.2
Plan Changes: To Rezone Rural Zone		
		Hectares (approx)
To Coastal Residential or similar	Requested	49.9
	Approved	3.9
To Rural Residential or similar	Requested	722.3
	Approved	462.0
Total Rural Zone Area Affected by Residential Rezonings	Requested	772.2
	Approved	465.9

Source: Hastings District Council

²⁷ Plan Changes 3 & 41 (PC3 was withdrawn)

²⁸ Plan Change 42 (Hastings District Council Regional Sports Park)

Approximately 183 hectares of Plains Zone land, and 466 hectares of Rural Zone land, has been effectively lost from land-based productive use since the District Plan was made operative in June 2003. This equates to 0.62% reduction in the size of the Plains Zone, and 0.09% reduction in the size of the Rural Zone.

About 13% of the District's land resource falls within the most fertile and versatile soils classifications.

Subdivision applications in the Rural Zone peaked in 2007, but the proportion of non-complying subdivisions has remained relatively steady, fluctuating between ~15-25% of all subdivisions in the Rural Zone. Subdivision applications affecting the Plains Zone have averaged about 20-25 per year. In the Plains Zone however, the proportion of non-complying subdivisions has been steadily increasing – from ~25% in 2004 to almost 50% of all subdivisions in the Plains Zone in 2008.

New dwellings in the Plains and Rural Zones as a proportion of all new dwellings in the Hastings District appear to have been almost three times what the Council's long term urban development strategy suggests. Building consents for new dwellings in the Rural Zone were in the same order as for the Plains Zone indicating a high number of new dwellings in the Plains Zone which only comprises 5.8% of the District, when compared to the Rural Zone which comprises 92.9% of the District.

There has been a loss of 183 hectares from the Plains Zone as a result of rezoning, representing a 0.62% reduction in the size of the Plains Zone since the District Plan was made operative in 2003.

Also of note, only a fraction of the new dwellings in the rural area have been built in identified rural residential or special character zones, suggesting either a lack of available rural residential zoned land, or a lag effect as rezonings take time to convert into development areas.

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.
- Commence monitoring the types of resource consents applied for in the Plains Zone to gain a comprehensive understanding of activities occurring on the finite soil resource of the Heretaunga Plains. For example, commercial and industrial activities not directly related to land based primary production.
- At time of publication, Council has notified Plan Change 49 amending the low density residential strategy and rural lifestyle subdivision provisions pertaining to the Rural Zone.
- At time of publication, Hastings District, Napier City and Hawke's Bay Regional Councils are working on a combined Heretaunga Plains Urban Development Strategy (HPUDS) that will see a co-ordinated approach to development on the Heretaunga Plains from 2015 to 2045.

Air & Water Sustainability

The Issue at a Glance

Indicator	State	Summary
Air Quality		
AQ1	Levels of particulate matter (PM ₁₀) in the air	 PM ₁₀ levels consistently exceed National Environmental Standards for Air Quality on more than one occasion each year during the winter months (28 days in 2008).
AQ2	Residents' concern regarding air pollution	 High levels of concern and worsening, with ~47% surveyed being concerned or very concerned about air pollution.
Water Quality		
WQ1	Surface water quality	 Comparisons show that for the 32 monitoring sites located with the Hastings District, 13 sites compare better, a further 17 sites are in line with national and regional values, and 2 sites fall short. Ecosystem/habitat health for the 22 sites within the District that are monitored for habitat quality shows that 10 sites exhibit good ecosystem health, a further 8 sites exhibit average health, and 4 sites exhibit poor ecosystem health.

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 supply 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 mostly attributed to domestic heating (woodburners & 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.

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 standards²⁹. Some of the issues identified by Hawke's Bay Regional Council are:

- Fine smoke particles (PM₁₀) in urban areas, mostly from domestic heating (woodburners & fires) on winter evenings, with smaller amounts from vehicles and some industrial sources;
- Agricultural spray drift;
- Odour from some farming, industry and waste management operations;
- Visibility affected by smoke from open burning; and
- Dust and windblown dirt from cropping and industrial activities.

Particulate matter (PM₁₀) is the most significant air quality issue in the region. Therefore, particulate matter (PM₁₀) has been selected as the most representative indicator of air quality for inclusion in this report. PM₁₀ is the fine particles within the air which can cause respiratory problems for people if concentrations are too high, and can result in visual pollution.

Hawke's Bay Regional Council monitoring shows that the level of particulate matter in the Hastings airshed continues to exceed the National Environmental Standards for Air Quality (NES)³⁰. Source monitoring also showed arsenic concentration in the District's air also exceeded air quality guidelines in 2006/07 (11ng/m³ compared to the annual average guideline of 5.5ng/m³) – possibly linked to burning of treated wood.

In the DPSIR Model, particulate matter levels in the air are a 'State' indicator.

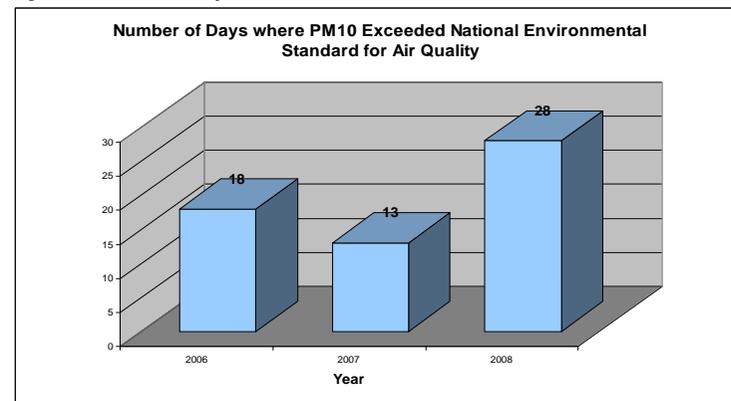
MONITORING INFORMATION

Indicator AQ1: Levels of Particulate Matter (PM₁₀) in the Air

The Hawke's Bay Regional Council has identified two airsheds within the Region – one for Napier and the other for Hastings. The monitoring site for the Hastings Airshed is located at St John's College, Hastings.

The following graph shows the number of days where PM₁₀ in the air exceeded the National Environmental Standards for Air Quality (NES) as measured at this site. There is currently only 3 years worth of data on PM₁₀ levels from the St John's site, using a continuous Beta Attenuation Monitor.

Figure 21: Number of Days where PM₁₀ exceeded National Environmental Standard for Air Quality



Source: Hawkes Bay Regional Council

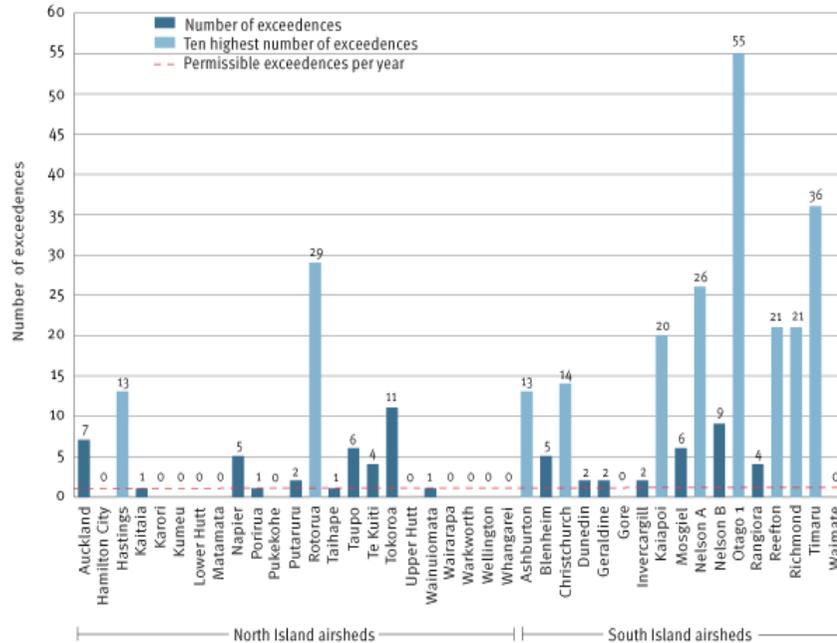
For the 2006-2008 years, PM₁₀ exceeded the national air quality guidelines on an average 20 days per year. In 2008, the levels exceeded guidelines on 28 days.

²⁹ 'Hawke's Bay Trends – The State of Our Environment Summary Report 2004-2008', 2010, Hawke's Bay Regional Council.

³⁰ Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004

By 1 September 2013, the NES allows exceedance of the standard for PM₁₀ only once (over a 24-hour period) per year. Hastings has a long way to go to achieve that level of compliance.

Figure 22: Number of times New Zealand airsheds exceeded the PM₁₀ standard in 2007



Source: Ministry for the Environment

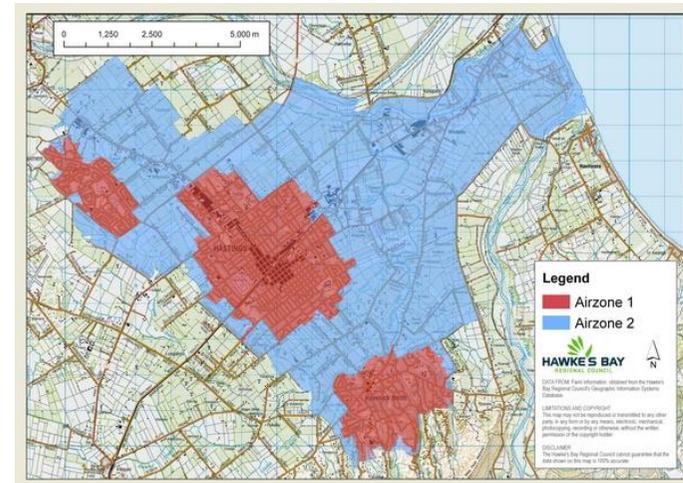
The graph above shows a comparison with the rest of New Zealand. In 2007, Hastings was one of the worst 10 areas in New Zealand for the number of air quality exceedances, with 13 exceedances that year – having a similar level as Tokoroa (11) Ashburton (13) and Christchurch (14).

During 2007, the average across the North Island airsheds was 3.5 exceedances and 7.9 exceedances across all New Zealand airsheds. Approximately 65% of all North Island and only 12% of all South Island airsheds complied with the NES that year.

In research commissioned by Hawke’s Bay Regional Council, domestic heating (woodburners & fires) has been identified as the dominant source of PM₁₀ during winter in Hastings by emission inventory, source identification, and airshed dispersion modelling. Domestic heating in winter coincides with when concentrations of PM₁₀ exceed the NES.

Airshed modelling estimates that to attain the NES, emissions from domestic heating need to decrease for PM₁₀ by 79% in Hastings, and suggests that the only way to achieve this is to phase out inefficient wood burners and prohibit open fires in the Hastings Airshed. This is the catalyst for Proposed Plan Change 2 to the Hawke Bay Regional Resource Management Plan (notified in December 2008), which seeks to phase out inefficient domestic woodburners and open fires for home heating by 2013.

Once these new rules are implemented, it is expected that a decrease in the number of exceedances will occur over time, and an improvement in air quality during the winter months will be achieved.



Map: Hastings Airshed
(Source: Hawke’s Bay Regional Council)

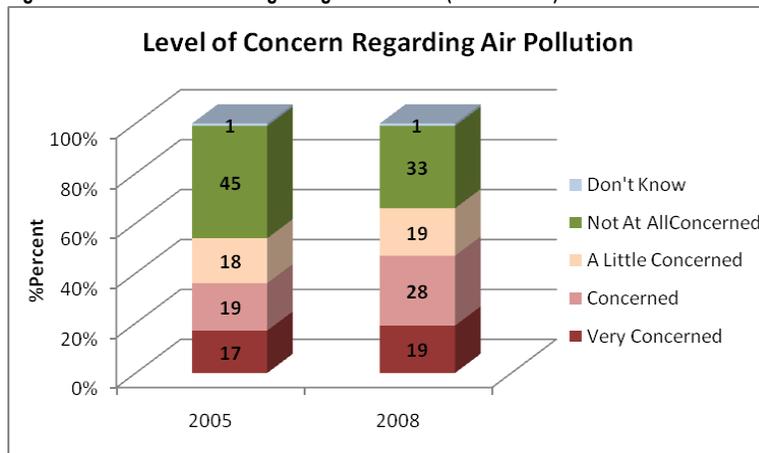
Indicator AQ2: Residents' Concern Regarding Air Pollution

Resident's level of concern regarding air pollution gives further insight as to the quality of air in the District.

The following graph shows that almost half of the 503 respondents to the Council's tri-annual Communitrak Survey were concerned about air pollution in 2008.

Overall, 47% of those surveyed were 'concerned' or 'very concerned' about air pollution, significantly higher than in 2005 (36%).

Figure 23: Level of Concern Regarding Air Pollution (1995 & 2008)



Source: Hastings District Council Communitrak Survey

Whilst air quality in the District is generally very good, in 2007 Hastings was in the top 10 worst areas in New Zealand for the number of times PM₁₀ levels exceeded the National Environmental Standard for Air Quality. Over the past 3 years, the Hastings Airshed has averaged 20 days per year of non-compliance with the NES³¹.

This has resulted in the Hawke's Bay Regional Council initiating a plan change to phase out inefficient domestic woodburners and open fires for home heating³².

At the same time, Hastings District resident surveys in 2005 and 2008 indicated the community is becoming increasingly concerned about air pollution, with almost half of those surveyed being 'concerned' or 'very concerned' in 2008.

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.

³¹ 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.

³² Hawke's Bay Regional Council has approached central government to extend the deadline for meeting NES guidelines from 2013 to 2020.

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. Groundwater quality, particularly from the Heretaunga Plains basin, is generally of high quality. Hawke's Bay Regional Council monitoring has not detected any elevated pollutants or naturally occurring chemicals of concern in this resource to-date³³.

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 has been selected as the representative indicator of water quality.

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.

It is noted here that this State of the Environment Report does not address urban stormwater – where it is being discharged to, or the potential impact it could have on the receiving environments. At time of writing, Hastings District Council was in the process of applying to Hawke's Bay Regional Council for resource consents for its discharges of municipal stormwater to surface water. Monitoring compliance with consent conditions will feature in future state of the environment reporting, in tandem with the results of the Regional Council's routine water quality monitoring programme.

MONITORING INFORMATION

Indicator WQ1: Surface Water Quality

Hawke's Bay Regional Council monitor surface water quality with a focus on 6 water quality variables (dissolved reactive phosphorus (DRP), water clarity, dissolved inorganic nitrogen (DIN/SIN), *E.coli* bacteria, periphyton biomass, and macroinvertebrate communities (MCI)). The following summarises surface water quality monitoring carried out by Hawke's Bay Regional Council up until the 2008/09 monitoring season.

Hawke's Bay 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. Combined comparisons show that for those 32 monitoring sites located with the Hastings District, 13 sites compare better, a further 17 sites are in line with national and regional values, and 2 sites fall short.

³³ 'Hawke's Bay Trends – The State of Our Environment Summary Report 2004-2008', 2010, Hawke's Bay Regional Council.

The two sites that fall short are the Ruahapia & Mangarau Streams which are urban streams.³⁴

In addition, the Regional Council monitors trends in water quality over time. For the 32 monitoring sites located within the Hastings District, 11 sites have remained in good compliance across the DRP, DIN, *E.coli* and water clarity variables, and the other sites have shown minor deterioration across one or two variables.

Ecosystem/habitat health (measured using the Macroinvertebrate Community Index (MCI)) for the monitoring sites located within the Hastings District show that of the 22 sites that are monitored for habitat quality and for which there is sufficient data, 10 sites show good ecosystem health, a further 8 sites show average health, and 4 sites show poor ecosystem health.

The four sites showing poor ecosystem health are:

- Maraetotara River at Te Awanga;
- Waingongoro Stream at Waimarama Road;
- Puhokio Stream at Te Apiti Road; and
- Ngaruroro River at Whanawhana.³⁵

Time series trends in ecosystem/habitat health show that of those 22 sites, 1 site has maintained or shown improvement, 5 sites have shown some deterioration, and 3 sites have shown significant deterioration in habitat health since commencement of monitoring at each site (Esk River at Waipunga Bridge, Ngaruroro River at Whanawhana, Ngaruroro River at Ohiti)³⁶.

³⁴ The data sets are too small to draw any real conclusions for urban stream catchments – urban streams have only been included in the water quality monitoring programme since 2007.

³⁵ The reasons for poor ecosystem health at these sites are not easy to pinpoint. Refer Hawkes Bay Regional Council state of the environment monitoring reports for further information.

³⁶ As above.

The following is a brief overview of water & habitat quality for the main catchments in the Hastings District, with reference to the Hawke's Bay Regional Council's catchment monitoring reports. The main catchments in the District are:

- Ngaruroro River Catchment
- Tutaekuri River Catchment
- Esk River Catchment
- Clive River & Urban Stream Catchments
- Aropoanui & Waikari River Catchments
- Tukituki River Catchment

Ngaruroro River Catchment³⁷

Microbiological water quality is very good across all sites monitored in the Ngaruroro catchment – better than national values for comparable systems and stable or improving over time. Although a spatial trend is apparent when going downstream in the catchment in terms of increasing nutrient levels and declining clarity compared to levels at higher altitudes.

Two tributaries of the lower Ngaruroro River, the Waitio Stream and the Tutaekuri-Waimate Stream, both show indications of degraded water quality, although the Tutaekuri-Waimate appears more degraded than the Waitio. The Tutaekuri-Waimate has also been identified as a significant source of nutrients to the lower Ngaruroro River.

Tutaekuri River Catchment³⁸

Most parameters indicate good water quality in the Tutaekuri catchment. The microbiological water quality is generally excellent. Water clarity outside periods of high river flow is generally excellent at the top of the catchment (Lawrence Hut), and acceptable in the Mangaone River and the lower Tutaekuri River.

³⁷ 'Water Quality in the Ngaruroro Catchment, State, Trends & Contaminant Loads', Sept 2009, report by Aquanet Consulting Ltd for HBRC.

³⁸ 'Water Quality in the Tutaekuri Catchment, State, Trends & Contaminant Loads', Sept 2009, report by Aquanet Consulting Ltd for HBRC.

The key issue for the Tutaekuri catchment appears to be the common occurrence of nuisance levels of periphyton biomass in the lower Tutaekuri River during extended periods of low river flows. During these periods, the nutrient concentrations and daily loads degrade the lower Tutaekuri River. In this context, the Mangaone River appears to contribute significant inputs of nutrients in the Tutaekuri main stem, possibly contributing to the excessive periphyton levels.

Esk River Catchment³⁹

Ecological health is excellent at most sites. Habitat value is also excellent. Most sites, except the lower reaches show good compliance with the biomass guideline. Compliance with pH, temperature, ammoniacal nitrogen and E. coli is also generally excellent across all sites. However, the Esk River shows poor compliance with the water clarity guideline. In terms of national comparisons, most sites show good water quality having lower DRP concentrations than the national median.

Clive River & Urban Stream Catchments⁴⁰

Hawke's Bay Regional Council monitoring reports group the Clive River and urban stream catchments together owing to their similar type (warm, dry, low elevation streams) and close proximity to each other. With the exception of the Clive, they are all relatively small streams with either pastoral (Poukawa, Karewarewa, Awanui, Clive and Herehere), urban (Mangarau Stream) or industrial land use (Ruahapia Stream).

Generally, water clarity at these sites are better than national median values for comparable systems. The only site suitable for contact recreation of this group is the Clive River which has shown 95% compliance.

Bacteriological water quality at most sites is better than the 95 percentile attained from national sampling, the exceptions being Karewarewa Stream and Mangarau Stream at Te Aute Rd.

Phosphorus and nitrogen concentrations are particularly high at some sites: Hawke's Bay Regional Council suggest that whether this is due to land uses within the respective catchments or due to their catchment geology would require further investigation.

The urban streams are monitored for biological health using the macroinvertebrate community index. Results to date suggest that these streams are in a poor or very poor ecological state and they fail to meet a desired biological quality. However, stream ecological valuations have been done at many urban streams within the Hastings District, and these have found that urban streams in the Region are not beyond restoration.

Temporal trend analysis of the Clive River and tributary sites show increases in phosphorus concentrations at the rural Clive Catchment sites. Unfortunately the data sets for the urban stream catchments are of insufficient size to undertake temporal trend analysis. The urban stream catchments have only been fully included in the monitoring programme since 2007.

Nutrient loading and catchment yields analysis shows that the Awanui and Karewarewa Streams have particularly high nutrient loading given their small catchment area.

Of the rural Clive Catchment tributaries, the Poukawa Stream shows the best water quality across a number of variables. Hawke's Bay Regional Council suggest that it is likely that the water treatment services provided by Pekapeka Wetland upstream of this site are providing this stream with comparably better water quality than the remaining sites.

Of the group, the Ruahapia Stream has the largest number of recorded pollution events occurring.

³⁹ 'Esk & Mohaka Catchments Surface Water Quality & Ecology, State of the Environment Report 2009', November 2009, HBRC EMT 10/07.

⁴⁰ 'Clive & Urban Stream Catchments Surface Water & Ecology, State of the Environment Report 2009', Sept 2009, HBRC, EMT 09/26.

Aropaoanui & Waikari River Catchments⁴¹

The Hawke's Bay Regional Council has grouped the Aropaoanui and Waikari River catchments together owing to their similar type (warm low elevation pastoral streams) and close proximity to each other.

Mean macroinvertebrate community index (MCI) values for the Aropaoanui River, Sandy Creek and Waikari River all reflect possible mild enrichment while the Mahiaruhe Stream reflects poor water quality. The Mahiaruhe Stream also shows poor habitat quality. Unique features of the Mahiaruhe Stream site that give rise to the poor habitat include bank instability, channel instability and lack of complexity and stable bottom substrate availability. It is likely that these habitat variables play some role in giving rise to poor quality macroinvertebrate communities at this site. It is likely that these same habitat variables are also responsible for providing a mobile silty substrate which has resulted in this site having the lowest periphyton biomass. Compliance with the 'periphyton chlorophyll a' guideline is generally good to excellent at all sites.

Compliance with environmental guidelines is excellent at all sites for DIN, pH for native fish and trout tolerance, ammoniacal nitrogen, suspended sediments, E. coli, water temperature, and water clarity.

Tukituki River Catchment⁴²

Generally, the microbiological water quality is good across the catchment – better than national median values for comparable systems, and improving over time. Water clarity is acceptable across the catchment, also better than national medians.

The largest single issue in the Tukituki catchment appears to be nutrient enrichment and associated periphyton growth, with a general degradation from upstream to downstream in the catchment. Macroinvertebrate communities also follow a pattern of degradation going downstream in the catchment.

⁴¹ 'Aropaoanui & Waikari Catchments, State of the Environment Report 2009', September 2009, HBRC, EMT 09/28.

⁴² 'Water Quality in the Tukituki Catchment, State, Trends & Contaminant Loads', December 2008, report by Aquanet Consulting Ltd for HBRC.

The Tukituki River crosses the territorial authority boundaries between Hastings District and Central Hawke's Bay District. Monitoring sites in the Hastings District represent only the lower part of the catchment.

It is important to note that the reasons why some rivers have better water quality than others are varied and complex – pollution events, water abstraction, erosion, agricultural development, point source discharges, habitat loss and climate change all potentially affect the quality of our waterways. In general, river and stream sites at higher altitudes have better compliance with environmental guidelines than lowland sites – likely due to greater environmental pressures from more intensive land uses and an accumulation of contamination from upstream uses⁴³.

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.

Marine water quality is also consistently very good, although correspondingly poor in lagoon and estuarine areas.

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.

Comparisons show that for the 32 monitoring sites located with the Hastings District, 13 sites compare better, a further 17 sites are in line with national and regional values, and 2 sites fall short.

Of those 32 monitoring sites, 11 sites have shown continued good compliance across the DRP, DIN, E.coli and water clarity variables over time, and the other sites have shown minor deterioration across one or two variables.

Ecosystem/habitat health for the 22 sites within the District that are monitored for habitat quality shows that 10 sites exhibit good ecosystem health, a further 8 sites exhibit average health, and 4 sites exhibit poor ecosystem health. Of those 22

⁴³ 'Hawke's Bay Trends – The State of Our Environment Summary Report 2004-2008', 2010, Hawke's Bay Regional Council.

monitoring sites, 1 site has maintained or shown improvement, 5 sites have shown some deterioration, and 3 sites have shown significant deterioration in habitat health since commencement of monitoring at each site.

The reasons why some rivers or catchments have better water and habitat quality than others are varied and complex and the subject of detailed monitoring and research programmes carried out by Hawke's Bay Regional Council⁴⁴.

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, developing wetland areas as nutrient soaks, and planting 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

- Ensure Councils own discharges do not contribute to the pollution of the District's water resources.
- Work with the District's smaller communities where there are wastewater reticulation issues.
- Review provisions for protecting riparian vegetation in the District Plan Review.



Photo: Surface Water
(Source: Hastings District Council)

⁴⁴ 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 & Heritage Management

The Issue at a Glance

Indicator	State	Summary
Residential Amenity		
A1		Top 3 non-residential activities in residential zones were for 'educational facilities', 'home occupations' and 'healthcare facilities'.
A2		Generally trending downwards.
A3		Background noise levels between 35-45dBA (L95).
A4		Increasing number of noise complaints, but steady as proportion of total complaints (~90% of all complaints).
A5		Remained steady at ~32% surveyed being concerned or very concerned about noise pollution.
A6		High and steadily improving, with ~85% surveyed considering it a safe place to live.
A7		8.2ha/1,000 residents, shortfall of 'neighbourhood reserve' provision within the Hastings urban area.

The Issue at a Glance

Indicator	State	Summary
A8		Residents satisfaction with parks and reserves. Remained high at ~96% surveyed being satisfied.
A9		Residents' satisfaction with accessibility of recreational facilities. Remained high at ~87% surveyed being satisfied.
A10		Residents' rating of quality of life. High and improving, with ~87% surveyed perceiving high quality of life.
Coastal Amenity		
CA1		Subdivision and development in Coastal Residential Zone. Relatively limited, and mostly within Waimarama and Waipatiki settlements.
CA2		Demand for new coastal residential areas. Two rezoning requests – Tangoio Beach rezoning approved, Ocean Beach rezoning withdrawn.
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. Variable quality.

Natural Heritage/Landscape Character			
NC1	Volume of significant landscape character areas (SLCAs) and outstanding natural features (ONFs)		9 ONFs, 10 SLCAs comprising 3.4% of total land area.
NC2	Subdivision and development in Significant Landscape Character Areas (SLCAs) or Outstanding Natural Features (ONFs)		Increasing number of subdivision and land use consent applications affecting these areas, but no info on specific areas.
NC3	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 & SLCA5.
NC4	Areas of significant indigenous vegetation and significant habitats of indigenous fauna		67 sites, comprising 1.64% of total land area.
Cultural & Historic Heritage			
H1	Residents' perception of public art and cultural opportunities		High with ~79% surveyed being satisfied
H2	Heritage Items/ Precincts/ Waahi Tapu/ Outstanding Trees		123 outstanding trees, 88 heritage items, 3 heritage areas, 4 heritage buildings (Te Mata), 63 waahi tapu
H3	Consents to modify/destroy Heritage Items & Waahi Tapu		Very few consents and mostly alterations. No removal of any outstanding trees, or demolition of Category 1 or 2 buildings, or destruction of waahi tapu

H4	Archaeological sites		1,204 recorded sites as at end of 2007
H5	Authorities to modify/destroy Archaeological Sites		18 authority applications – 1 declined, 8 resulted in modification, 4 resulted in destruction

Section 30 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, this includes for the purpose of:

- the control of the emission of noise and the mitigation of the effects of noise; and
- the maintenance of indigenous biological diversity.

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 Outcome and How it Informs this Outcome	Relevant District Plan Outcomes
			<ul style="list-style-type: none"> 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. 	<p>Section 2.4.6 (Urban Development & Strategic Urban Directions):</p> <ul style="list-style-type: none"> 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. <p>Section 8.6 (Residential Zones):</p> <ul style="list-style-type: none"> 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.
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 quite 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' 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. 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.

There is no current data on the total number of non-residential activities presently operating in residential areas, which might have provided some context and a more comprehensive indication of the relative mix of activities occurring. Such information would also enable identification of any trends and possibly establish some correlation with people's appreciation of their residential neighbourhood.

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.

The following graphs show the broad categories of non-residential activities in the General Residential Zone that triggered a requirement for resource consent and were granted in the 5-year period to 2008, and the split between those involving alterations to existing activities and the establishment of new ones. Of the total consents granted for non-residential activities, 42 were for alterations to existing activities. There were 53 consents for new non-residential activities in the residential zones over the period.

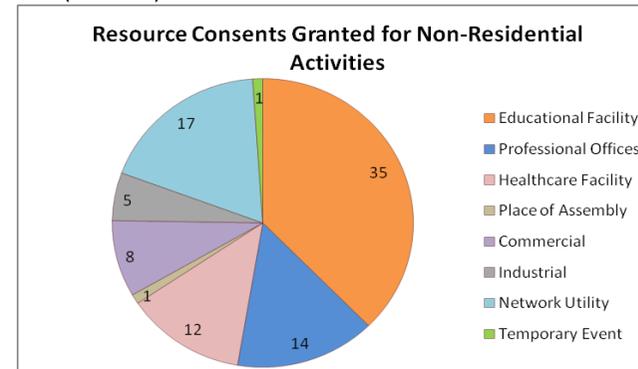
Educational facilities were the most prevalent, with 35 consents granted between 2004 and 2008. However, the vast majority of these (28 of the 35) were for alteration or expansion of existing educational establishments, largely to facilitate increases in capacity.

The majority of consents for professional offices (the second most prevalent) were associated with establishment of a home occupation. The third most prevalent non-

residential activity triggering a resource consent was for establishment of healthcare facilities in residential areas.

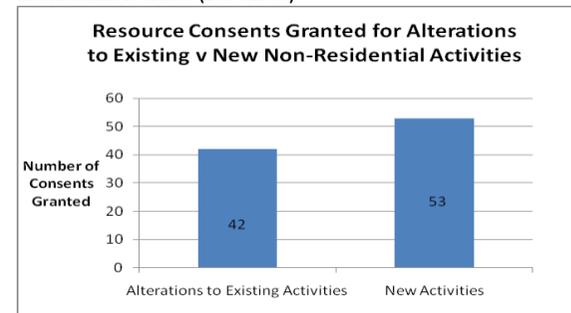
As would be expected, very few resource consents granted for non-residential activities in the 5-year period involved larger commercial or industrial activities.

Figure 24: Resource Consents Granted for Non-Residential Activities in the General Residential Zone (2004-2008)



Source: Hastings District Council

Figure 25: Number of Resource Consents Granted for Alterations to Existing versus New Non-Residential Activities (2004-2008)

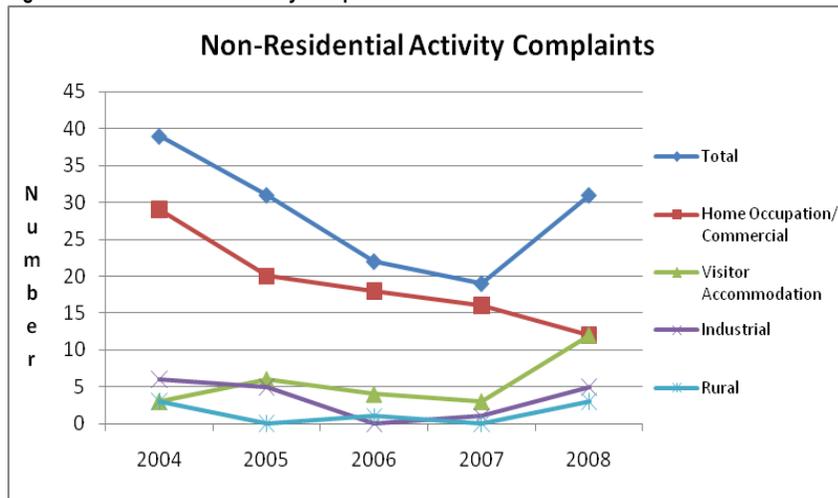


Source: Hastings District Council

Indicator 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.

Figure 26: Non-Residential Activity Complaints



Source: Hastings District Council

The data indicates a sharp fall or halving of total numbers of complaints between 2004 and 2007 which is a positive trend. However, there have been significant changes in the quality and recording of complaints by Council, which may explain much of this drop.

Since January 2007, there has been a more stringent recording regime and resources dedicated to processing of complaints and a stronger emphasis on compliance, and this continues to improve every year. As processing of complaints improves, the suggestion is that there is less likelihood of repeat complaints. Future monitoring may provide more useful trend information.

The most common non-residential activities subject to complaints are 'home occupations' and 'commercial activities'. Home occupation and commercial complaint

numbers generally mirror the overall trend for total number of complaints. There is a sharp spike in total complaints received in 2008 corresponding with the increase in complaints about visitor accommodation activities which rose similarly in 2008.

Anecdotally, the spike in visitor accommodation complaints is seen as coinciding with the influx of temporary workers through the Recognised Seasonal Employer (RSE) Programme (predominantly fruit pickers), and may be a reflection of accommodating higher densities of workers into accommodation than permitted by the District Plan. This issue has since been addressed through enforcing resource consent requirements and imposing appropriate conditions.

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 2005⁴⁵. 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 sound⁴⁶. It is the level exceeded 95% of the time

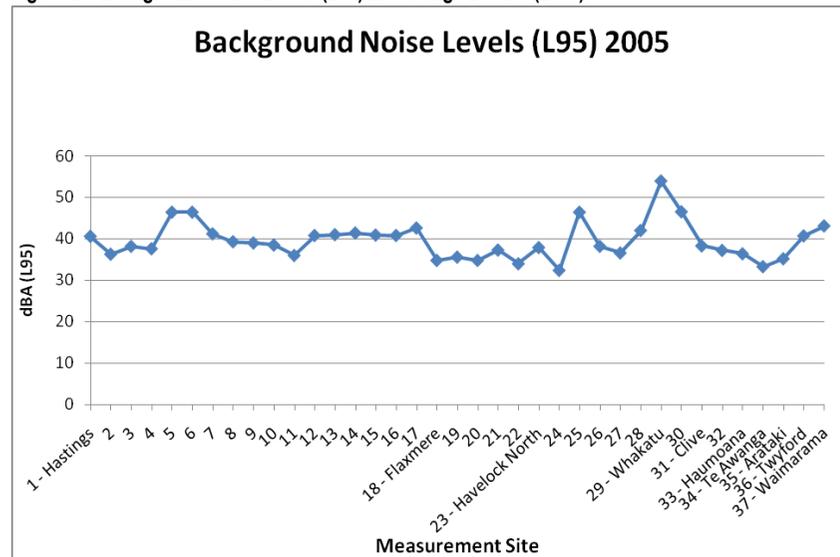
⁴⁵ '2005 Background Sound Level Survey', 2005, Hastings District Council.

⁴⁶ 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.

within the measurement interval. This is consistent with District Plan referencing, which applies NZS 6802:1991.

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.

Figure 27: Background Noise Levels (L95) in Hastings District (2005)



Source: Hastings District Council

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 & 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 & 30 are in close proximity to the Whakatu industrial area).

Data collected in the 2005 survey provides a good snapshot of the background noise environment at that time. Council intends to complete another survey in 2010 which will enable the identification of any change in the background noise environment.

Indicator A4: Noise Complaints

Noise complaints also give a reasonable indication of residential amenity values. Noise complaints generally reflect the level of intrusive noise occurring. As noted in the previous indicator, the perception of intrusive noise can depend on the background noise levels – the same noise will be perceived differently where there is a high background noise environment compared to a low background noise environment.

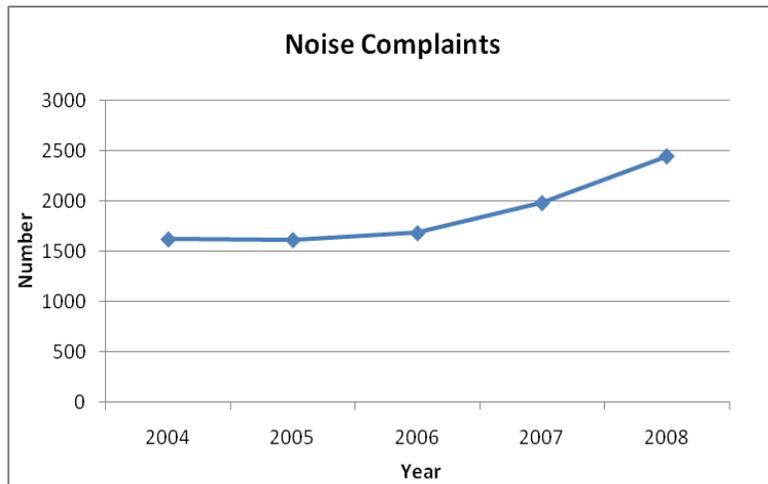
Similarly to most local authorities throughout New Zealand, Hastings District Council has a 24-hr hotline for members of the public to call in the event of experiencing noise nuisance.

Complaints are predominantly generated by loud stereos, parties, large scale events, industry noise, agricultural noise, and general nuisance noise. These are responded to by Council staff during working hours, and a contracted security firm responds to domestic complaints after-hours.

The following graph shows the total number of noise complaints received by Council each year between 2004 and 2008.

Noise complaints have increased by 50% in the 5-year period to 2008 – rising from 1,622 in 2004 to 2,447 in 2008.

Figure 28: Noise Complaints received by Hastings District Council (2004-2008)



Source: Hastings District Council

There was considerable increase in noise complaints in 2007 and 2008, however it is not clear what the cause might be. There is a possibility that this increase may reflect a change in provider of after-hours noise control services taking a more proactive approach.

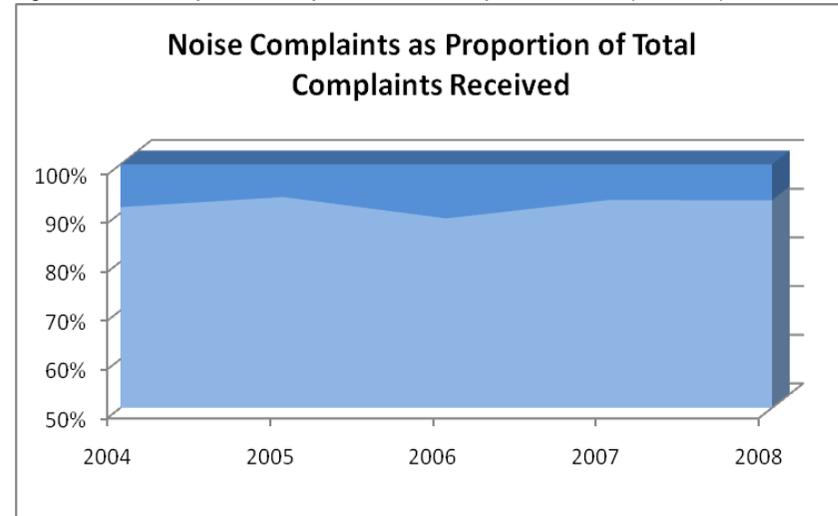
It may also reflect recent large-scale residential development, infill development and general population increase, and hence increased opportunity for noise generating activities.

It may also reflect an increasing tendency for people to take their complaints to a neutral party, such as their local Council, rather than approaching neighbours directly as they may have done in the past.

The following graph shows noise complaints as a proportion of total complaints received by Council, and indicates that noise complaints as a proportion have remained relatively static.

Noise complaints have consistently made up approximately 90% of all complaints received by Council in the 5-year period. Given this, noise is considered to be a strong indicator of people's appreciation of amenity.

Figure 29: Noise Complaints as Proportion of Total Complaints Received (2004-2008)



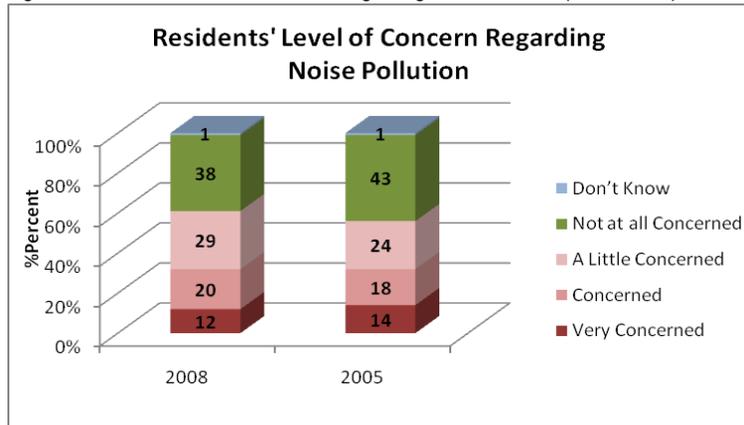
Source: Hastings District Council

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 tri-annual 'Communitrak Survey' in measuring residents' level of concern regarding noise pollution in Hastings District.

Figure 30: Residents' Level of Concern Regarding Noise Pollution (2005 & 2008)



Source: Hastings District Council Communitrak Survey

This indicator shows that concern about noise pollution remains static with 32% of the 503 people surveyed being concerned or very concerned about the issue in 2005, and again in 2008. The survey findings generally indicated that, on average, residents are 'a little concerned' about noise pollution.

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 are slightly more likely to feel very concerned.

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 a litmus test indication of changes in residential amenity.

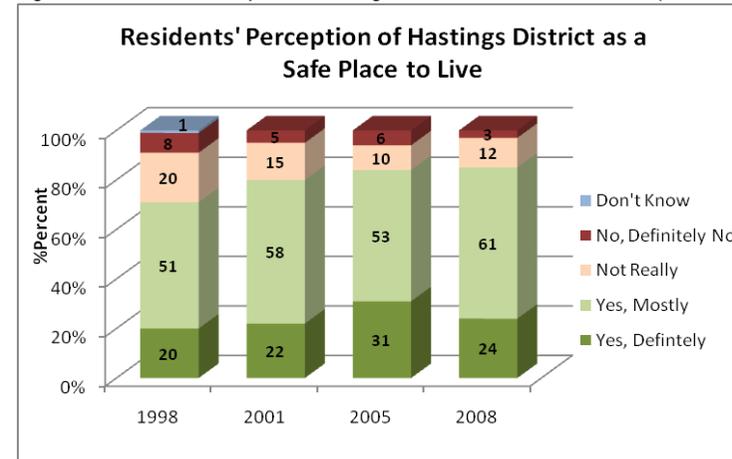
Indicator A6: Perception of the District as a Safe Place to Live

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 tri-annual Communitrak Survey 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, and this increased steadily to 85% in 2008.

Figure 31: Residents' Perception of Hastings District as a Safe Place to Live (1998 – 2008)



Source: Hastings District Council Communitrak Survey

However, according to NRB Ltd's analysis of the survey results in 2008, Hastings District as a whole is 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).

Also of note is that only 5% of the respondents living in the Flaxmere Ward gave a 'Yes, Definitely' response that the Hastings District is a safe place to live – with 27% giving a 'Not Really' response (59 of those surveyed were from this ward).

Indicator A7: Provision of Open Space Areas

The current level of reserves open space provision is 582.4 hectares (ha) which equates to 8.2ha/1,000 population. Sportsground provision is 1.5 ha per 1,000 residents which is similar to the national average and other local authorities of similar size. Additional provision will be required to meet future growth and increasing usage demands.

The Hastings District Council's Reserves Strategy 2006⁴⁷ recommends a minimum total District reserve provision of 10ha per 1,000 residents which equates to 720ha based on the 2006 resident population.

The Hastings LTCCP has a target level of service of 9.0ha/1000 population by 2018/19.

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.

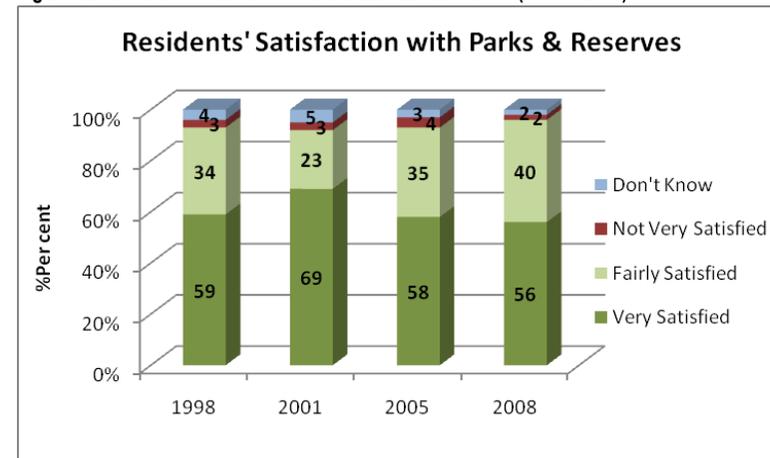
The LTCCP refers to this identified shortfall of 'neighbourhood reserve' provision within the Hastings urban area, and includes funding for six new playgrounds and a proposal for Waimarama domain reserve purchase. Currently, there is no strategy to actively grow open space beyond this, although the Reserves Strategy is currently under review.

The current development of the Regional Sports Park on Percival Road will add 29 hectares to the stock of reserves and this will increase the level of reserve provision to 8.59ha/1,000 residents. This change will be reflected in the next reporting period.

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 32: Residents' Satisfaction with Parks and Reserves (1998 – 2008)



Source: Hastings District Council Communitrak Survey

This indicator shows a very strong level of satisfaction over the decade since 1998. In 2008, 96% of the 503 residents surveyed were very/fairly satisfied with their parks and reserves facilities, and 85% of households surveyed had used parks and reserves in the previous 12 months.

According to NRB Ltd's analysis of the survey results in 2008, Hastings District sits 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).

⁴⁷ 'Hastings District Council Reserves Strategy 2006', 2006, Hastings District Council.

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 33: Residents' Satisfaction with Accessibility of Recreational Facilities (2005 & 2008)



Source: Hastings District Council Communitrak Survey

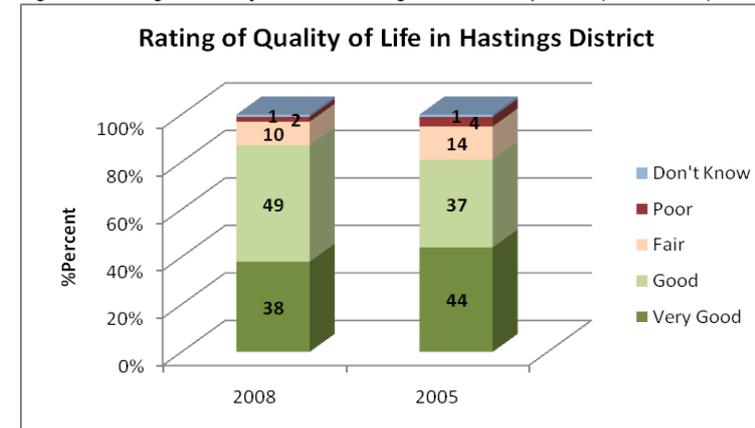
This indicator shows that community satisfaction with the accessibility of recreational facilities within the District remains relatively high (when asked, 86% of the 503 respondents were 'fairly' or 'very' satisfied with accessibility in 2008 – 87% in 2005).

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, with 87% of residents considering their quality of life to be 'very good' or 'good' in 2008, up from 81% in 2005.

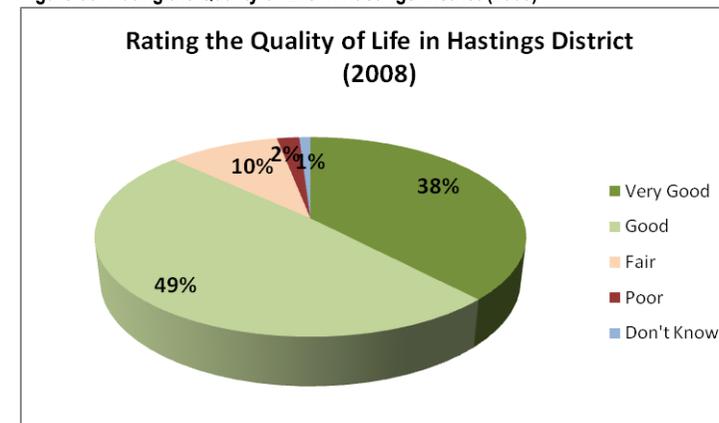
Figure 34: Rating the Quality of Life in Hastings District, Comparison (2005 & 2008)



Source: Hastings District Council Communitrak Survey

In 2008, with an 87% rating for 'good' or 'very good', Hastings District sits well within its peer group (similar Local Authorities) and the national average – being 85% and 86% respectively.

Figure 35: Rating the Quality of Life in Hastings District (2008)



Source: Hastings District Council Communitrak Survey

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 in residential areas and noise), need additional monitoring over a longer period to give more useful information.

There were 53 resource consents to establish new non-residential activities in the residential zones of the District between 2003 and 2008. Educational facilities were the most prevalent, followed by professional offices and healthcare facilities.

On average, resident surveys in 2005 and 2008 indicated the community is concerned about noise pollution. Noise complaints have consistently made up approximately 90% of all complaints received by Council in the 5-year period. Given this, noise is considered to be a strong indicator of people's appreciation of amenity.

The total number of noise complaints received by Council increased by 50% in the 5-year period to 2008. However, this may be a result of various other factors such as changes in Council's after-hours noise control service provider, knowing who to ring with complaints, or the tendency for people to take their noise complaint to a neutral party rather than approaching neighbours directly as they may have done in the past.

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 2010.
- Review the causes of noise pollution in residential areas to identify methods to reduce the perception of noise pollution.
- 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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
CA1	Subdivision and Development in the Coastal Residential Zone	Pressure	<ul style="list-style-type: none"> 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. 	<p>Section 2.7.6 (Coastal Environment Strategy):</p> <ul style="list-style-type: none"> 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.
CA2	Demand for New Coastal Residential Areas	Pressure		
CA3	Coastal Water Quality for Recreation	State	<p>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.</p>	
CA4	Coastal Water Quality for Recreational Shellfish Gathering	State		

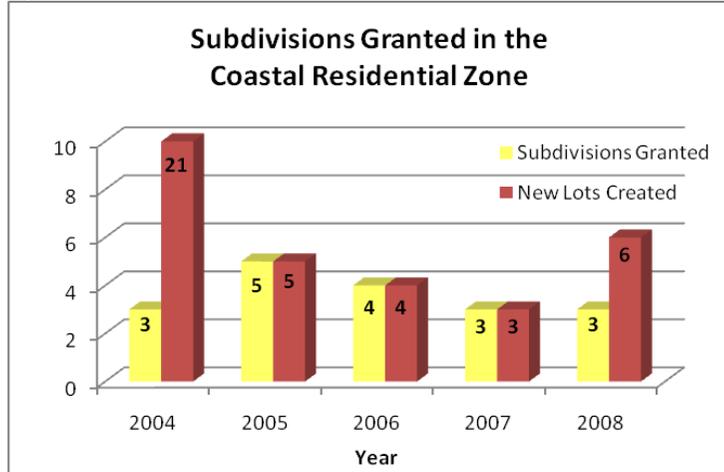
MONITORING INFORMATION

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 five year period from 2004 to 2008.

Figure 36: Number of Subdivisions Granted in the Coastal Residential Zone (2004-2008)



Source: Hastings District Council

Few subdivisions have taken place in the Coastal Residential Zone – with an average of only 3 or 4 subdivisions per year over this 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. Excluding those 2

subdivisions, the average number of new lots created in the entire Coastal Residential Zone over this period has averaged only 3 or 4 additional lots per year.

The additional lots can be split by settlement as follows:

- Waipatiki 1 additional lot;
- Whirinaki 1 additional lot;
- Haumoana 7 additional lot;
- Te Awanga 3 additional lots;
- Waimarama 28 additional lots.

Although outside of the above reporting period, a substantial subdivision in Waipatiki in 2003 (creating 29 additional lots in that coastal settlement) is worthy of mention.

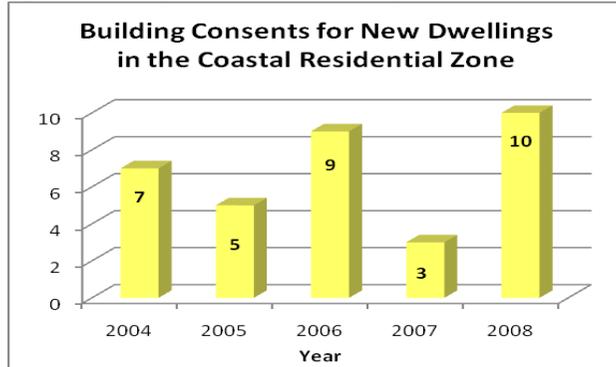
Waipatiki and Waimarama have grown the most over recent years (largely as a result of the three substantial subdivisions identified above in 2003 and 2004), with Whirinaki, Haumoana and Te Awanga considerably less.

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 5-year period to 2008, but confirms that development in the established coastal settlements of the District has been relatively limited.

Figure 37: Building Consents for New Dwellings in the Coastal Residential Zone (2004-2008)



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). 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

Since June 2003 when the District Plan became operative, there have been two District Plan changes (one in 2005 and the other in 2008) to rezone land for coastal residential development.

The first involved zoning 3.9 hectares of land from Rural to Coastal Residential to retrospectively legalise the existing coastal bach settlement at Tangoio (Plan Change 31). This plan change was successful, although largely provides for the retreat of the existing bach settlement, with only limited provision for future coastal residential development potential.

The second Plan Change proposal was for Ocean Beach, which would have rezoned an additional 143 hectares for residential activities of varying densities, with a potential section yield of 1062 dwellings. However, this controversial plan change has since been withdrawn at the applicant's request. The advent of this plan change, when viewed alongside a perceived increase in coastal subdivision occurring outside of the formal Coastal Residential Zone for 'lifestyle' purposes, suggests an unsatisfied demand for coastal residential development in the District.

Again, future reporting of subdivision and residential development within the coastal environment on land zoned Rural or Plains, will assist in developing an overall picture of demand and supply of coastal residential properties over time.

Indicator CA3: Coastal Water Quality for Recreation

There is a strong correlation between water quality & 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.⁴⁸

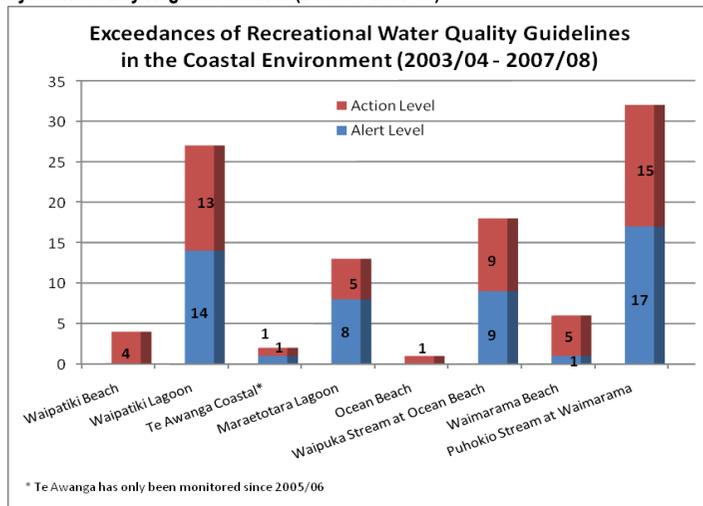
⁴⁸ 'National Guidelines for Contact Recreation', 2003, Ministry for the Environment & Ministry of Health.

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 Hawkes Bay Regional Council monitors water quality at various 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.⁴⁹

The following graph shows the number of times the guidelines were exceeded at each of the coastal monitoring sites in Hastings District between 2003/04 and 2007/08.

Figure 38: Number of Exceedances of Recreational Water Quality Guidelines at Beaches Monitored by Hawke’s Bay Regional Council (2003/04-2007/08)



Source: Hawkes Bay Regional Council

⁴⁹ 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 beyond '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.

Between 2003 and 2008, there have been 40 instances of restrictions imposed on swimming at various beaches in the Hastings District following 'Action' level contamination. The length of these restrictions was not formally recorded until 2008.

In 2008, there were 7 instances when swimming restrictions were imposed by the Public Health Unit, as follows:

Table 7: Swimming Restrictions Imposed on Beaches in Hastings District in 2008

Date	Location	Days Restriction in Place
16 Jan 2008	Waipatiki Lagoon	2
13 Feb 2008	Maraetotara Lagoon at Te Awanga	2
13 Feb 2008	Puhokio Stream at Waimarama	2
13 Feb 2008	Waipatiki Lagoon	2
13 Feb 2008	Waipuka Stream at Ocean Beach	2
5 April 2008	Clive River at Clive	4
12 Dec 2008	Waipuka Stream at Ocean Beach	6

Source: Public Health Unit

Of these, 4 of the 7 instances were different locations over the same 2-day period (13 February 2008), following a significant rainfall event.

Hawke's Bay's marine water quality supports contact recreation activities most (if not all) of the time⁵⁰. This is evident in the 'Suitability for Recreation Grade' for Waipatiki Beach, Ocean Beach and Waimarama Beach - which are all graded 'good' or 'very good'.

Conversely, although a few of the freshwater/estuarine sites have maintained a high level of water quality, some persistent problem areas are repeatedly highlighted each season.

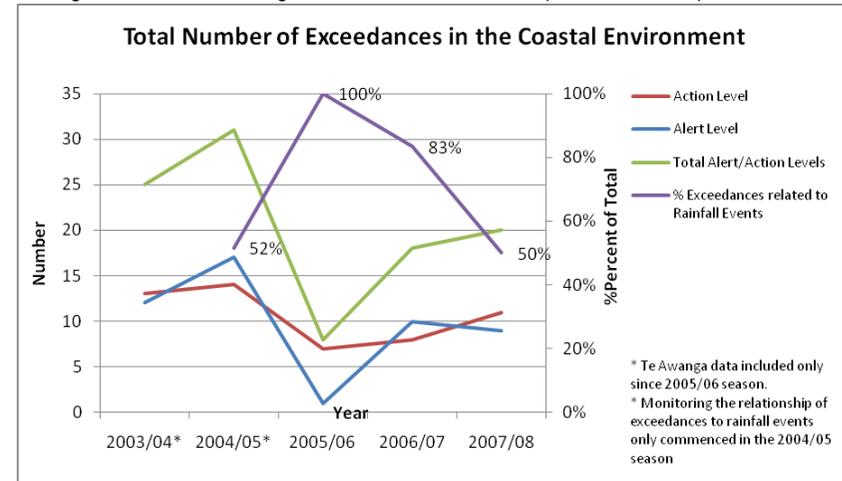
In terms of their 'Suitability for Recreation Grade', Waipatiki & Maraetotara Lagoons and Waipuka & Puhokio Streams are all graded 'poor' or 'very poor'. Puhokio Stream has had persistent water quality issues due to poor historical land management and wastewater disposal in the catchment, and has permanent signs in the area warning the public of potential health risk.

None of the gradings for coastal monitoring sites in the Hastings District have altered significantly in the five seasons to 2007/08.

The following graph shows performance over the five monitoring seasons (November to March) from 2003/04 to 2007/08. Since 2004/05, Hawkes Bay Regional Council has also monitored rainfall events to determine correlation between such events and increases in contamination levels.

Hawkes Bay Regional Council report that the high levels of compliance (low number of exceedances) with Ministry guidelines at all sites during 2005/06, 2006/07 and 2007/08 reflect the extensive dry weather experienced throughout those seasons. In 2005/06, all exceedances (100%) were attributed to rainfall events.

Figure 39: Total Number of Exceedances for Monitoring Sites in the Coastal Environment in the Hastings District, and Percentage Attributed to Rainfall Events (2003/04 – 2007/08)



Source: Hawkes Bay Regional Council

Overall, Hawkes Bay Regional Council advises that marine water quality is consistently very good.

However, for freshwater/estuarine sites, there remain a number of non-rainfall related exceedances of the 'Action' guideline values (particularly Waipatiki Lagoon & Puhokio Stream). Estuarine and lagoon waters are more vulnerable as they are less well flushed and often have considerable bird-life.

Whilst still rated 'very poor', Puhokio Stream has exhibited a noticeable reduction in bacterial numbers between 2000 and 2008 - ongoing land management and increased awareness of preventing stock access in streams may be starting to have observable effects in water quality⁵¹.

⁵⁰ 'Recreational Water Quality in Hawke's Bay Review of the 2007-2008 Recreational Water Quality Monitoring Programme', April 2008, EMT 08/06, HBRC Plan Number 4018, Hawkes Bay Regional Council.

⁵¹ 'Recreational Water Quality in Hawke's Bay Review of the 2007-2008 Recreational Water Quality Monitoring Programme', April 2008, EMT 08/06, Plan Number 4018, Hawkes Bay Regional Council.

Upgrading of sewage facilities (as has occurred for Waipatiki⁵²), and other initiatives including riparian planting and stock exclusion may result in further observable improvements in water quality at these sites over time. Hastings District Council continues to look into the feasibility of community sewerage schemes for Waimarama and Te Awanga/Haumoana.

Indicator CA4: Coastal Water Quality for Recreational Shellfish Gathering

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

Hawkes 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 gathering⁵³. Beaches fail to comply with the guidelines when 10% of samples over the season exceed the guideline of acceptable faecal coliform levels⁵⁴. The guidelines use faecal coliform indicator organism values to denote the potential presence of pathogenic bacteria, viruses and protozoa.

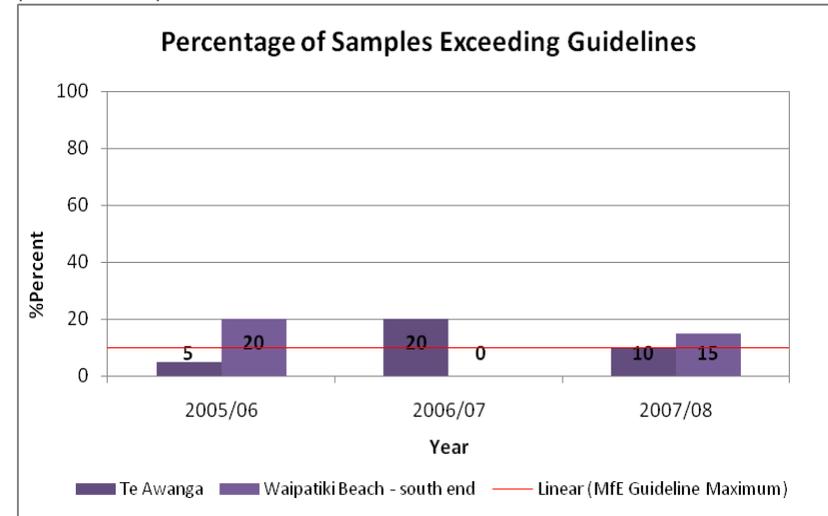
Thus, once a site has more than two(2) non-compliant samples during a season, it is deemed to have breached Ministry for the Environment and Ministry of Health guidelines – at which point, the public are required to be notified of the health risks associated with the collection of shellfish in that location.

⁵² A community sewerage scheme for Waipatiki was installed in early 2006. As at January 2007, approximately 90% of residential properties in the settlement had connected to the community scheme, with approximately 6 properties yet to connect.

⁵³ 'Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas Ref. ME474', June 2003, Ministry for the Environment (& Ministry of Health).

⁵⁴ The Ministry for the Environment and Ministry of Health guideline for acceptable faecal coliforms is <43 faecal coliforms MPN/100ml.

Figure 40: Percentage of Samples Exceeding Guidelines for Recreational Shellfish Gathering (2005/06-2007/08)



Source: Hawkes Bay Regional Council

The results in the above graph for the two shellfish gathering waters within the Hastings District reveal that Te Awanga was generally suitable for shellfish gathering with the exception of the 2006/07 season when 4 of the 20 samples (20%) for that season had higher than acceptable levels of faecal coliforms. Waipatiki Beach failed to comply for both the 2005/06 (20% of samples) and 2007/08 (15% of samples) seasons, and was only compliant for the 2006/07 season (when all samples showed acceptable faecal coliform levels).

There is insufficient long term data at present to draw conclusions about trends in the health of shellfish gathering areas in the District. Future monitoring will enable trends to be observed over time.

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.

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 2007/08.

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 varying compliance. Future monitoring will assist in determining any trends in the state of these sites over time.

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:

- 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, its 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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. 	<p>Section 12.2.6 (Landscape Areas):</p> <ul style="list-style-type: none"> 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. <p>Section 13.10.6 (Indigenous Vegetation):</p> <ul style="list-style-type: none"> 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	Significant Landscape Character Areas and Outstanding Natural Features	State	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 by the Resource Management Act is a valuable measure of how appreciated and protected such resources are.	
NC2	Subdivision and Development within Significant Landscape Character Areas (SLCA) & Outstanding Natural Features (ONF)	Pressure	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.	
NC3	Building Activity within Significant Landscape Character Areas (SLCA) or Outstanding Natural Feature (ONF) Areas	Pressure	(refer above)	



NC4	Significant Indigenous Vegetation and Significant Habitats of Indigenous Fauna	State	<p>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 and wetlands.</p> <p>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.</p>
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MONITORING INFORMATION

Indicator NC1: Significant Landscape Character Areas and Outstanding Natural Features

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 District Plan, as at November 2007 (when it was last updated), identifies a total of 17,593.506 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 & 2);
- Kahuranaki (ONF3);
- Mt Erin – Kohinurakau (ONF4);
- Cape Kidnappers (ONF5);
- Whakaari Headland – Tangoio Bluff (ONF6);
- Maungaharuru Range (ONF7);
- Kaweka & Ruahine Ranges (within Forest Park boundaries) (ONF8); and
- 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)
- Tuki Tuki 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 12,695 hectares in the District.



Photo: Tuki Tuki Valley
(Source: Hastings District Council)

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

Indicator NC2: Subdivision and Development Activity within Significant Landscape Character Areas (SLCA) or Affecting Outstanding Natural Features (ONF)

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.

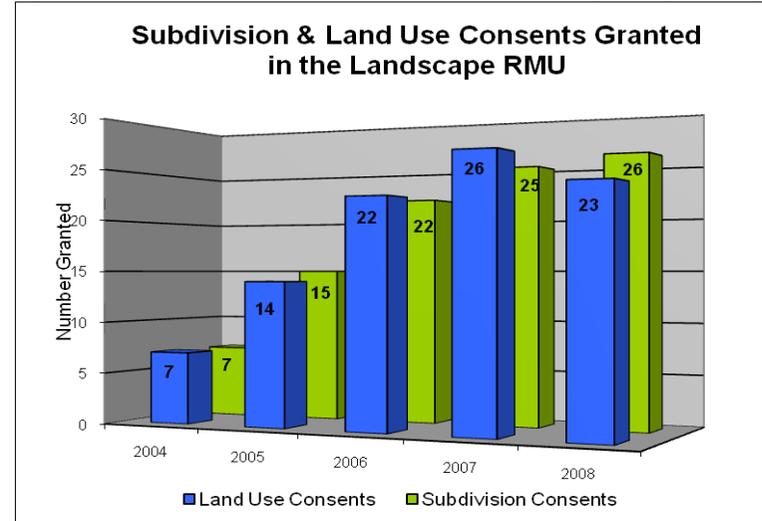
The District Plan has specific rules for some specific ONFs. In SLCAs, earthworks, plantations and most non-residential buildings do not trigger consent under the Landscape RMU provisions unless they lie in the Rural Residential Zone.

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 41: Subdivision & Land Use Consents Granted in the Landscape RMU (2004-2008)



Source: Hastings District Council

From the above graph, the number of subdivisions and the number of land use consents affecting the Landscape RMU are similar in number, and have both trended significantly upwards in the 5-year period to 2008.

There were more than three times as many subdivisions and three times as many land use consent applications in 2008 relative to 2004. The majority of land use consents have related to building new or extending existing dwellings (approximately 76 of the 92 land use consents granted). Other land use consent applications of note have included a 75-turbine windfarm, a 30-bed visitor accommodation facility, a café, a farm tourism business, and establishment of a small museum.

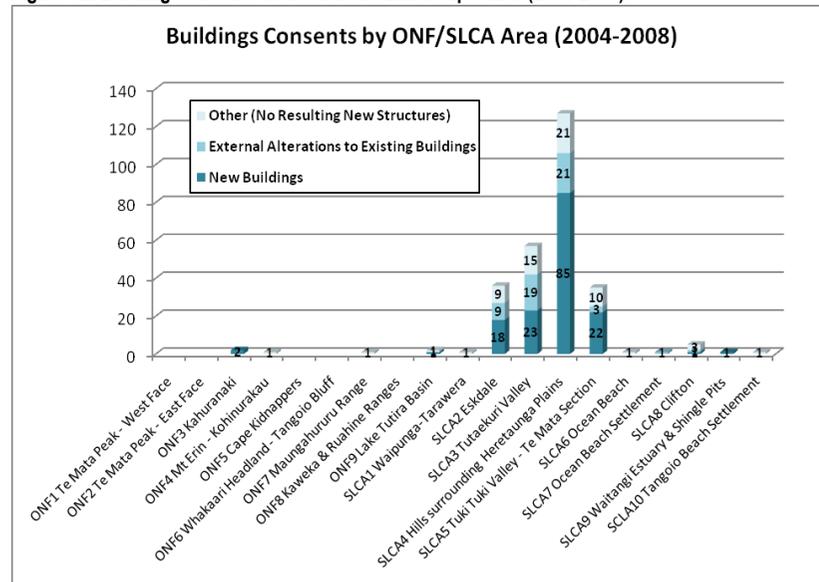
In contrast, over this same period there has been a doubling of all resource consent applications received by Hastings District Council, peaking in 2007. This suggests a proportionally greater increase in consents affecting Landscape RMU areas, and may indicate some relative pressure.

To-date, Council has not recorded the specific SLCA's or ONF's affected by each land use or subdivision consent application in a readily accessible way. Future reporting would benefit from this, as over time it would more accurately identify those landscapes which are experiencing the greatest or growing pressures, and whether there are certain types of activities affecting particular landscape areas. Further expert assessment would also be needed to determine whether those additional structures have actually led to a negative impact on landscape values.

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 2004 & 2008.

Figure 42: Building Consents Granted in the Landscape RMU (2004-2008)



Source: Hastings District Council

During the 5-year period 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 (Kahurangi) and the other in ONF9 (Lake Tutira Basin)). 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 in the 5 years to 2008. Consents have concentrated on SLCA2 (Eskdale), SLCA3(Tutaekuri Valley), SLCA4 (Heretaunga Hills), and SLCA5 (Tuki Tuki Valley-Te Mata).

SLCA4 has been subject to 85 building consents for substantive 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).

It would be useful to continue to monitor building activity over time to watch for trends which may indicate increasing demand. It would then require further expert assessment as to whether those additional structures have actually led to a negative impact on landscape values.

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 District Plan (as at November 2007 when last updated) 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.

To-date, Council does not record in a readily accessible way, when a resource consent application involves an RAP or geopreservation site. Hence, data is currently unavailable to provide an indication of pressure on this resource or any trends. Future reporting would benefit from this, as it would show whether any RAPs or geopreservation sites are experiencing pressure, and whether there are certain types of activities affecting particular sites.

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 78 open space covenants comprising 2,366 hectares of private land within Hastings District, as at end 2008. This represents 0.46% of Hastings District's total land resource, which is comparable to that for the whole of New Zealand (0.40%).

These covenant areas range in size from 3,000m² to 213 hectares. The average covenant size for Hastings District is 30.3ha, and this is also comparable with the average covenant size for New Zealand (29.6ha).

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

Approximately 17,595ha (~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 risen three-fold in the 5-year period to 2008, suggesting that there may be some pressure on these features.

In addition, the District Plan identifies 67 areas of 'significant vegetation, habitats & geological sites' and there are a further 78 QEII Open Space covenants on private land in Hastings District. Together these comprise approximately 11,000ha of significant natural area in the District (~2.1% of the District) that is subject to some degree of protection.

Data is currently unavailable to provide an indication of pressure on this resource or any trends. More specific data collection in the future, in terms of when a resource consent application impacts on an RAP or geopreservation site, will assist in determining if those areas are experiencing any pressure.

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:

- For future reporting, Council will collect data on the specific 'SLCA' and 'ONF' landscapes affected by subdivision and land use consent applications, as well as any RAPs or geopreservation sites affected. This will assist monitoring whether any of these areas start to experience any particular threat or pressure.
- 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.



Photo: Cape Kidnappers
(Source: Hastings District Council)

Cultural & 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 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 Historic Places Act 1993 and the Resource Management Act 1991. The Historic Places Act 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

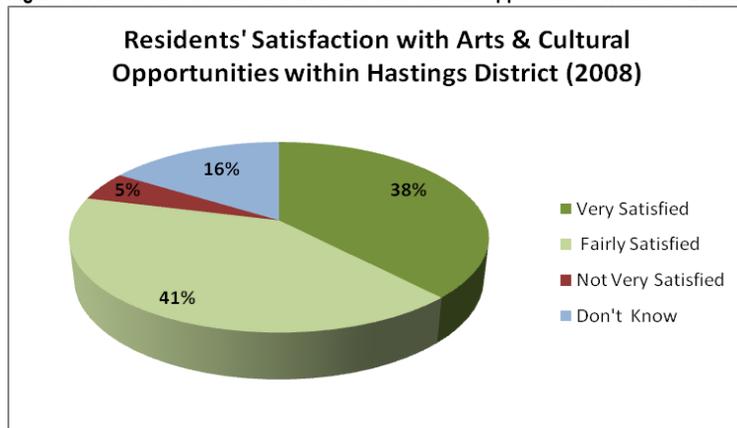
Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> Communities that value and promote their unique culture and heritage. Places, spaces, activities and events celebrating and strengthening the identities of all cultures within Hawke's Bay. Maori culture and language is respected, promoted and strengthened in the community. 	<p>Section 12.5.6 (Heritage Items & Trees):</p> <ul style="list-style-type: none"> 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. <p>Section 12.5.6 (Waahi Tapu):</p> <ul style="list-style-type: none"> 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.
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	Heritage Items/Precincts/Waahi Tapu/ Outstanding Trees	State	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 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.	
H3	Consents to Modify/Destroy Heritage Items & Waahi Tapu	Pressure	The number of consents to modify or destroy heritage items or archaeological sites can identify pressure on historic and cultural resources.	
H4	Archaeological Sites	State	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.	
H5	Authorities to Modify/Destroy Archaeological Sites	Pressure	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 43: Residents' Satisfaction with Arts and Cultural Opportunities within the District (2008)



Source: Hastings District Council Communitrak 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'. This was the first time this question was posed through the survey. Future survey results will indicate trends which can be reported over time.

Indicator H2: Heritage Items/ Precincts/ Waahi Tapu/ Outstanding Trees

The number of heritage buildings and waahi tapu provides an indication of the cultural capital present in the Hastings District. As at November 2007 (when the District Plan was last updated) there were 218 heritage items (including 123 outstanding trees) and 63 Waahi Tapu sites recorded in the Hastings District Plan.

Table 8: Heritage Items in the District Plan

Heritage Items	Number
Outstanding Trees (T1 – T138 not consecutive)	123
Heritage Items (H1–H90 not consecutive (including approximately 76 heritage buildings)	88
Historic Areas	3
Heritage Buildings (Te Mata Special Character Area)	4
Waahi Tapu sites (W0- W67 not consecutive)	63
Total	281

Source: Hastings District Plan

A further nine heritage items were added to the District Plan in 2008. Plan Change 47 was notified in 2008, which reviewed and updated inconsistencies in the location of waahi tapu in the District Plan.



Photo: Oak Avenue, Hastings
(Source: Hastings District Council)

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

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.

Table 9: Resource Consent Applications to Modify/Destroy Heritage Items and Waahi Tapu Sites (2004-2008)

Activity	2004	2005	2006	2007	2008	Total for 2004-2008
Alter building in heritage precinct	-	2	-	1	2	5
Alter Category 2 building	-	-	1	-	-	1
Alter Category 1 building	-	1	1	2	-	4
Relocate Category 2 building	-	1	1	-	-	2
Relocate Category 1 building	-	-	-	-	-	-
Demolish building in heritage precinct	-	-	1	-	-	1
Demolish Category 2 building	-	-	-	-	-	-
Demolish Category 1 building	-	-	-	-	-	-
Prune or affect outstanding tree	-	-	3	-	1	4
Remove outstanding tree	-	-	-	-	-	-
Modify waahi tapu site	1	1	-	-	-	2
Destroy waahi tapu site	-	-	-	-	-	-
TOTAL	1	5	7	3	3	19

Source: Hastings District Council

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 19 resource consents affecting these items over the 5-year reporting period. Of these, the majority were for alterations to buildings (10), with only 1 resource consent application to actually demolish an item (a toilet block identified as a heritage building in the Central Character Precinct of Hastings City in 2005).

Alterations to Category 1 buildings in 2005, 2006 and 2007 involved:

- Internal and external alterations to the Municipal Theatre (H3) and Former Council Chambers (H2) in 2005 & 2006 respectively;
- Internal and external alterations to a dwelling 'Whare Ra' (H8) in 2007; and
- Internal and external alterations to the former Westerman's Building in 2007.

Modification of waahi tapu involved earthworks associated with subdivision in the vicinity of Oingo Lake (W67) in 2004, and ground disturbance in the vicinity of Korongata Urupa (W3) in 2005.

Indicator H4: Archaeological Sites

The New Zealand Archaeological Association (NZAA) keeps records of all archaeological sites recorded throughout New Zealand⁵⁵. At the end of 2007 there were 1,204 recorded archaeological sites on the NZAA file for Hawke's Bay that were in the Hastings District. This was up from 1,165 sites recorded in 2006.

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 number of recorded sites therefore is not meaningful of itself, but the trend in newly recorded sites year-on-year does provide some indication of pressure and the level of impact on historic heritage generally. It may also indicate improving public awareness of statutory requirements to assess and provide for archaeological sites over time.

⁵⁵ An archaeological site is defined in the Historic Places Act 1993 as any place associated with pre-1900 human activity, where there is evidence relating to the history of New Zealand.

Indicator H4: Authorities to Modify/Destroy Archaeological Sites

The Historic Places Trust has received few applications for authorities to modify or destroy archaeological sites in the 5-year period to the end of 2008. In this time, only 18 applications for an authority were received (5 applications under Section 11 of the Historic Places Act (HPA), and 13 under Section 12 of the HPA)⁵⁶ – one of these was declined, and the remaining 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.

Of these authorities:

- 8 ultimately resulted in avoidance of any archaeological sites and were sought as a precautionary measure (primarily associated with tree harvesting activities);
- 8 involved minor damage or modification of sites; and
- 4 involved destruction of archaeological sites (including destruction of two turn-of-the-century houses as part of the Hastings Courthouse redevelopment).

Whilst this suggests there is little pressure on archaeological sites within the District, the small number of applications for authority in response to subdivision or development proposals (4 of the 18 authority applications) is in stark contrast to the number of subdivisions that have occurred in the District over this period (there were 403 in the Plains & Rural Zones alone). 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.

⁵⁶ 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.

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 & protected in the District Plan between 2004 and 2008. All except one involved alterations or relocation, suggesting an overall desire to retain such items as functional buildings.

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.
- Collate data on additional Waahi Tapu and add to the list in the District Plan.
- Review and update the schedules of heritage items and outstanding trees in the District Plan.



Photo: Municipal Theatre, Hastings
(Source: Hastings District Council)

Sustainable Infrastructure

The Issue at a Glance

Indicator	State	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 ~50%. 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	Serious and fatal road injuries	 Higher crash & casualty rates than national average, but showing gradual improvement.
T6	Residents' satisfaction with Council roads	 Significant improvement, with ~72% surveyed being satisfied.
T7	Residents' feeling of safety for pedestrians and cyclists	 High satisfaction with footpaths with ~67% surveyed satisfied with quality and safety. However, low feeling of safety for cycling, with almost half surveyed considering it

The Issue at a Glance

Indicator	State	Summary
		dangerous.
Water Management		
WS1	Consented water takes held by HDC for water supply purposes	 13 resource consents held by HDC for community supplies, providing for abstraction of 586,000m ³ of water in any 7-day average.
WS2	Domestic water consumption	 Relatively stable at around 558 litres per person per day. Slight upward trend.
WS3	Commercial and industrial consumption	 Relatively stable at around 1,600,000 cubic litres per year.
WS4	Public health water quality grading	 Currently community supplies remain ungraded.
WS5	Compliance with drinking water standards	 Most community supplies in the District comply with drinking water standards. Waipatiki water supply unable to comply due to poor source water quality.
WS6	Residents' rating of water quality	 Continued high satisfaction with the water supply with ~78% surveyed being satisfied (95% for those connected to public supply).

The Issue at a Glance			
Indicator	State	Summary	
Wastewater Treatment			
WW1	Consented wastewater discharges held by HDC		Two consents held by HDC for community wastewater schemes – East Clive and Waipatiki.
WW2	Compliance with conditions for wastewater discharges		Quality of wastewater discharged from the East Clive Plant well within environmental standards set. Insufficient data to report on Waipatiki Scheme compliance.
WW3	Volume of wastewater produced		Annual average daily volume from East Clive Plant is approximately 53,000m ³ .
WW4	Residents' satisfaction with Sewerage System		Continued high satisfaction with the water supply with ~73% surveyed being satisfied (92% for those connected to public systems).
Trade Waste Disposal			
TW1	Amount of trade waste discharged through the separated trade waste conveyance system		At end of 2008 the separated trade waste system had not had a full year of measured operation.
TW2	Number of industries connected to the separated trade waste conveyance system		22 industries connected to the separated trade waste system.
TW3	Number of reported incidents of non complying discharges of trade waste		Since July 2005, 22 non-compliance notices were issued and 1 cancellation of consent.

The Issue at a Glance			
Indicator	State	Summary	
Energy Use			
E1	Electricity demand		Electricity demand for Hawke's Bay region has increased 17% between 2003 and 2008.
E2	Sustainable energy use projects		5 organisations completed energy efficiency projects in the 5 years to 2008. Hastings District Council completed a Level One Energy Audit of its twenty highest energy consuming facilities, and commenced other energy efficiency initiatives.

Section 30 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 sector⁵⁷.

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 Strategy⁵⁸ (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;
- Roothing Improvements;
- Improved Land Transport Planning and Design;
- Improved Communication And Integration;
- Rail Improvements; and
- Facilitation of Alternatives to Private Passenger Transport.

The Heretaunga Plains Transportation Study⁵⁹ is a key strategic document for the District, and outlines how improvements are to be made to the roading network.

⁵⁷ Section 2.5.6 of the Hastings District Plan.

⁵⁸ 'Hawkes Bay Regional Land Transport Strategy 2008-2018', 2008, Hawke's Bay Regional Council.

⁵⁹ 'Heretaunga Plains Transportation Study', 2004, joint Hawke's Bay regional and territorial authorities and Transit New Zealand.

In addition, Hastings District Council operates Cycling and Walking Strategies, in response to the National Walking and Cycling Strategy⁶⁰.

The Hastings Cycling Strategy⁶¹ 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.

The Hastings Walking Strategy⁶² 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.

Hawkes Bay Regional Council has also developed a Regional Passenger Transport Plan⁶³. 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.

⁶⁰ 'Getting there – on foot, by cycle: Strategic Implementation Plan 2006-2009', 2006, Ministry of Transport & Land Transport New Zealand.

⁶¹ 'Towards Better Cycling – The Hastings Cycling Strategy', 2001, Hastings District Council.

⁶² 'Hastings Walking Strategy', 2004, Hastings District Council.

⁶³ 'Hawke's Bay Regional Passenger Transport Plan 2008-2018', 2008, Hawke's Bay Regional Council.

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)

Indicators for Transportation

Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
T1	Motor Vehicle Registrations	State	<ul style="list-style-type: none"> ▪ 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. 	<p>Section 2.5.6 (Transportation):</p> <ul style="list-style-type: none"> ▪ 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. <p>Section 14.1.6 (Traffic Sightlines, Parking and Loading):</p> <ul style="list-style-type: none"> ▪ Protection of the safety and efficiency of the District Roding Network.
T2	Motor Vehicle Ownership	State		
T3	Means of Travel to Work	State		
T4	Bus Passenger Numbers	State		
T5	Serious and Fatal Road Injuries	Impact		
T6	Residents' Satisfaction with Council Roads	State		
T7	Residents' Feeling of Safety for Pedestrians and Cyclists	State		
			<p>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.</p>	

MONITORING INFORMATION

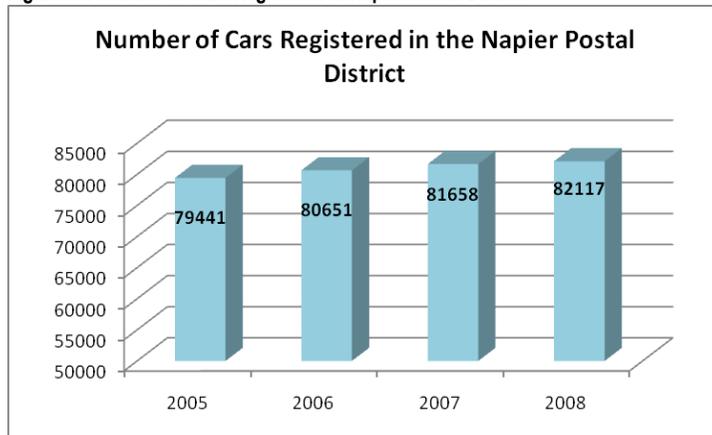
Indicator T1: Motor Vehicle Registrations

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.

Figure 44: Number of Cars Registered in Napier Postal District



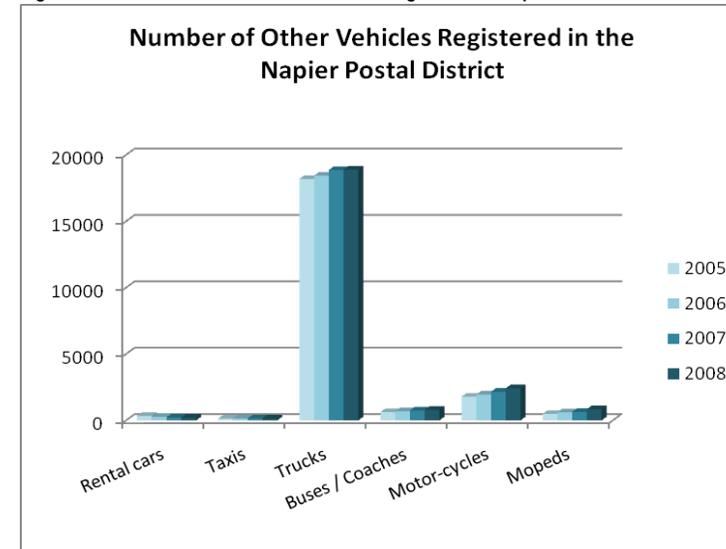
Source: New Zealand Transport Agency

Total registered vehicles rose 4.7% over the 4-year period from 2005 to 2008.

Car registrations increased by 3.3% (an additional 2,676 cars) over that 4-year period; truck registrations rose 3.8% (700 trucks); bus registrations rose 27.9% on 2005

numbers (175 buses); motorcycle registrations rose 35.5% (634 motorcycles), and moped registrations rose 74.2% (363 mopeds).

Figure 45: Number of Other Motor Vehicles Registered in Napier Postal District⁶⁴



Source: New Zealand Transport Agency

In that time, whilst all vehicle types grew in number, both cars and trucks dropped slightly as a proportion of all registered vehicles in the District (cars comprised 65.9% of all registered vehicles in 2005 dropping to 65% in 2008; trucks dropped from comprising 27.9% of all registered vehicles in 2005 to 17.1% in 2008).

Over the same period, buses increased as a proportion of all registered vehicles from 0.52% to 0.64%, motorcycles from 1.48% to 1.92%, and mopeds from 0.41% to 0.67% of all registered vehicles. These are all vehicles that use less fuel. Rising fuel prices may have contributed to this slight shift.

⁶⁴ 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).

Indicator T2: Motor Vehicle Ownership

As for total vehicle registrations, the number of motor vehicles per household also adds insight on traffic congestion, fossil fuel consumption and air pollution.

The following graph shows the distribution of motor vehicles per household for Hastings District in the 2006 census closely mirrors that for New Zealand as a whole:

Table 10: Access to Motor Vehicles in Hastings District and New Zealand (2006)¹

Number of Motor Vehicles	Hastings District (%)	New Zealand (%)
No access	1,782 [7%]	112,758 [8%]
One	8,847 [35%]	527,844 [36%]
Two	9,333 [37%]	531,627 [37%]
Three or more	4,041 [16%]	222,204 [15%]
Not elsewhere included ²	1,149 [5%]	59,742 [4%]
Total	25,152	1,454,175

- All figures are for households in private occupied dwellings. Absentees are excluded.
- In 1996, this includes 'not specified' data and in 2001 'not stated' data. In 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 2006.

Table 11: Access to Motor Vehicles in Hastings District (1996–2006)

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

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 35% in 2006. The percentage of households with no motor vehicles had also fallen in the decade between 1996 and 2006, from 11% to 7% of households.

Conversely, there was a corresponding rise in the number of households owning more than one motor vehicle between 1996 and 2006 – the percentage of households with two motor vehicles increased from 32% to 35% in 2001, and 37% in 2006. The proportion of households with three or more motor vehicles increased from 12% to 16% in that decade.

This data 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.

Indicator T3: Means of Travel to Work

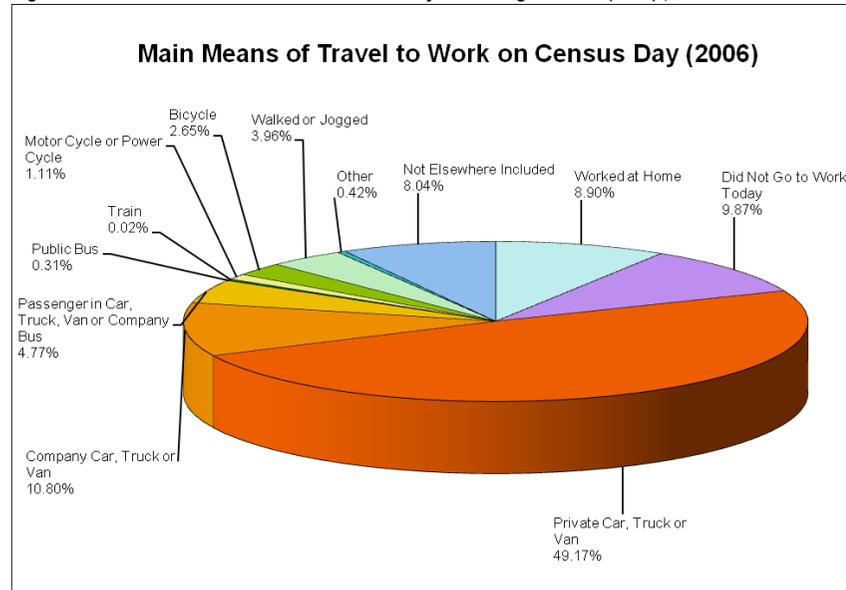
This indicator provides us with a picture about how people get to their place of employment. Public transport and non-motorised forms of transport (such as cycling, walking and jogging) generally represent the more sustainable means of travel to work.

The following pie charts indicate that in 2006 approximately half 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 or were passengers in private or company vehicles. Only about 7% took public transport (passenger bus or train) or engaged in non-motorised means of travel (by bicycle or walked/jogged).

This distribution of 'means of travel to work on census day' changed very little between 1996, 2001 and 2006, albeit there has been a decline in those that took public transport or non-motorised means of travel which dropped from a little over 10% in 1996, to around 8% in 2001 and around 7% in 2006. Much of this decline can be

attributed to a decline in the number of people using a bicycle to travel to work – this has dropped from 5.1% in 1996, to 3.48% in 2001 and 2.65% in 2006.

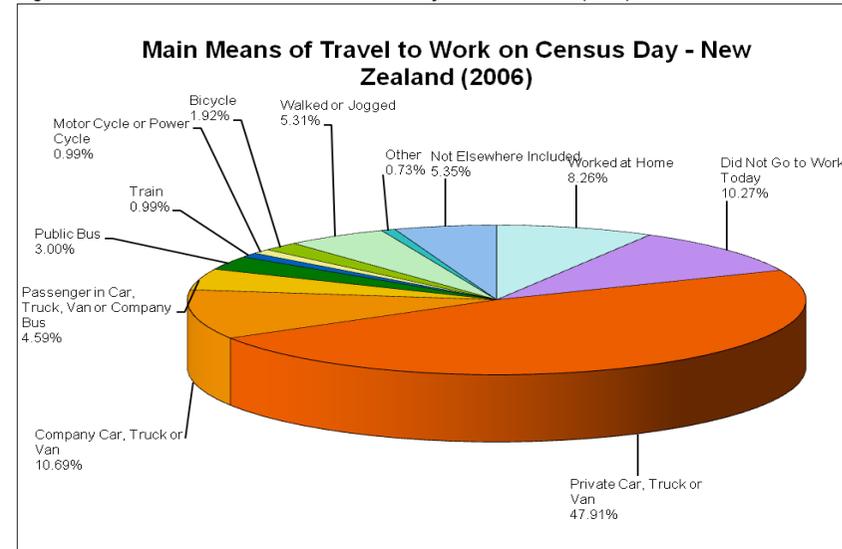
Figure 46: Means of Travel to Work on Census Day in Hastings District (2006)^{1,2}



1. All figures are for the employed census usually resident population count aged 15 years and over.
2. 'Not Elsewhere Included' includes 'not stated'.
Source: Statistics New Zealand

The graph below shows the distribution for New Zealand as a whole at the 2006 Census. The distribution for Hastings District in 2006 compares similarly to that for New Zealand as a whole. However, nationally about 11% took public transport, biked or walked to work on census day (compared to 7% in Hastings District).

Figure 47: Means of Travel to Work on Census Day in New Zealand (2006)



1. All figures are for the employed census usually resident population count aged 15 years and over.
2. 'Not Elsewhere Included' includes 'response unidentifiable' and 'not stated'.
Source: Statistics New Zealand

Hastings District had a slightly higher number of those travelling to work by bicycle on census day in 2006 than the national average (2.65% versus 1.92% nationally). Whilst there were a higher proportion of people who travelled to work by bicycle in Hastings District compared to the national average on census day in 2006, the number of people cycling to work in the Hastings District dropped by almost half between 1996 and 2006.

Compared to the national average, Census 2006 data reveals that Hastings District had a lower proportion of people that travelled to work by public bus (0.31% versus 3.0% nationally), train (0.02% versus 0.99% nationally), or walked/jogged to work (3.96% versus 5.31% nationally).

The lower proportion travelling by train can be directly attributed to the lack of availability of trains as a means of travel to work in Hawkes Bay.

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 options, 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.

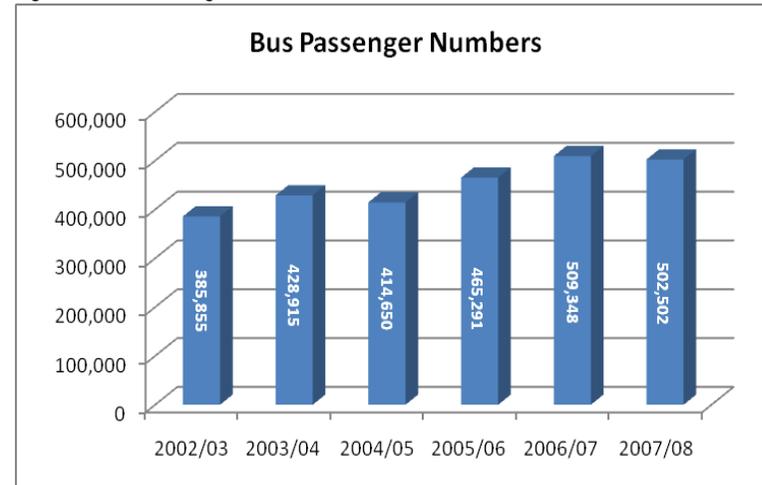
Indicator T4: Bus Passenger Numbers

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

Figure 48: Bus Passenger Numbers



Source: Hawkes Bay Regional Council

Bus passenger patronage for the period 2002 to 2008 show an overall positive trend with over 500,000 passengers in 2006/07 and 2007/08 – an approximate 30% 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.

Indicator T5: Serious and Fatal Road Injuries

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)⁶⁵.

In the period from 2004 to 2008, there were 58 fatal crashes resulting in 66 fatalities, and 256 serious injury crashes resulting in 351 serious injuries. In the past decade,

⁶⁵ ‘Hastings District Road Safety Report 2004-2008’, April 2008, Land Transport New Zealand, and briefing notes on road safety issues for Hastings District for the 2004 – 2008 period.

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 49: Fatal & Serious Injury Crashes for Hastings District (1999-2008)



Source: New Zealand Transport Agency

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.

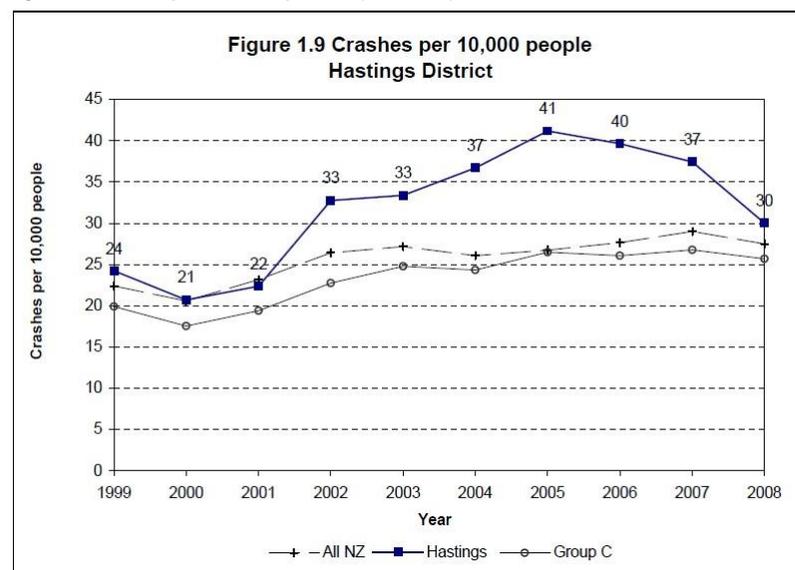
The rate of crashes and casualties⁶⁶ per 10,000 population can also be readily compared against the District's peer group and the national average.

⁶⁶ '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).

NZTA group Hastings District with other similar local authority areas with large provincial towns and hinterland, identified as 'Group C'⁶⁷.

The following graphs show that between 2002 and 2007 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.

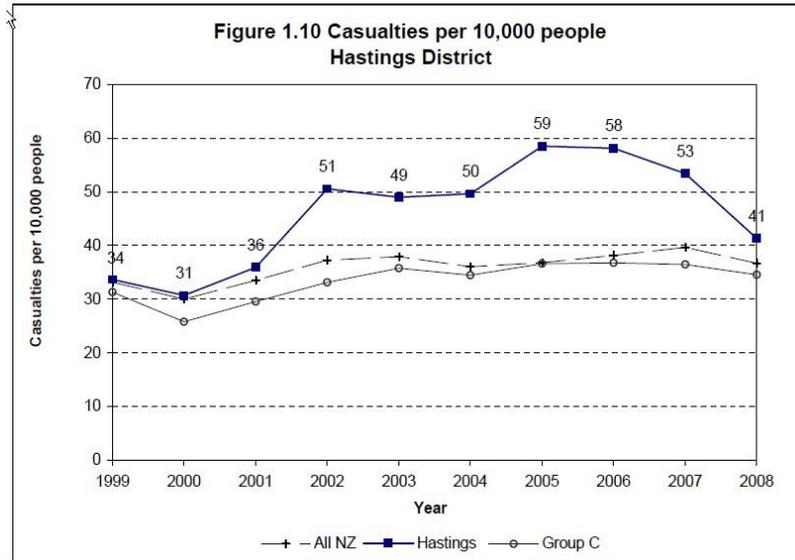
Figure 50: Crashes per 10,000 Population (1999-2008)



Source: New Zealand Transport Agency

⁶⁷ Group C comprises Gisborne, Hastings, Kapiti Coast, New Plymouth, Porirua, Rotorua, Timaru, Upper Hutt, Wanganui & Whangarei.

Figure 51: 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 blew out to more than 50 percent higher than Group C and the New Zealand average. The reasons for this gap 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, although the reasons for this improvement are equally likely to be a combination of factors such as road safety campaigns, road infrastructure improvements etc.

The major road safety issues identified for Hastings District over the period from 2004 to 2008 were:

- Rural loss of control;
- Intersections;
- Vulnerable road users (pedestrians, cyclists & motorcyclists); and

- Alcohol.

Rural Loss of Control

The largest proportion of deaths and serious injuries during the 2004 – 2008 period resulted from rural loss of control crashes, particularly on state highways – 32 deaths (with 20 of these occurring on state highways), and 184 serious injuries (with 106 of these occurring on state highways). However, the latest five year trends for rural loss of control show a decreasing trend in the total number of injury crashes.

Intersections

During the most recent five year period (2004 – 2008) 41 percent of all crashes in Hastings District occurred at intersections. These crashes resulted in 17 deaths and 90 serious injuries. The latest five year trends show a decrease in the number of intersection injury crashes.

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

- Havelock Rd/St Georges Rd;
- Napier Rd/SH 2;
- SH50A Maraekakaho/York Road;
- St Aubyn St East/Willowpark Rd North;
- Pakowhai Rd/Ruahapia Rd;
- Nelson St North/Queen St West; and
- St Aubyn St West/Nelson St North.

Vulnerable Road Users

In Hastings District vulnerable road users constituted 19 percent of all injuries over the last five years (2004-2008). Injury crashes involving cyclists accounted for more than half of these.

Most (85 percent) cyclist crashes occurred on urban roads, the majority at intersections (60 percent) and mostly during daylight hours (88 percent).

Trends in the proportion of casualties involving cyclists are of particular note. The number of casualties involving cyclists in the urban areas of Hastings District (~15%)

was significantly higher than the District's peer group and the national average (~10% & ~9%, respectively) during the 2004 – 2008 period. The latest five year trends however, show injury crashes involving cyclists in the Hastings District to be gradually reducing.

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

- Main routes in & out of Hastings town centre;
- Hastings suburban intersections;
- Omahu Road / Heretaunga Street route;
- Karamu Road route;
- Heretaunga Street East route; and
- Intersection on the main routes in & out of Havelock North.

Alcohol

Alcohol-affected drivers contributed to 20 deaths and 52 serious injuries on local roads, and 6 deaths and 16 serious injuries on state highways, during this period. The latest five year trends show a slight decline in the district for all alcohol related injury crashes.

Casualties involving Heavy Vehicles

The positive trend in the proportion of casualties involving heavy vehicles is also worthy of particular note. In the past 10 years, the proportion of heavy vehicle casualties has declined significantly, from being almost twice the national average to falling well below the national average (falling since 2006 to almost half the national average in 2008).

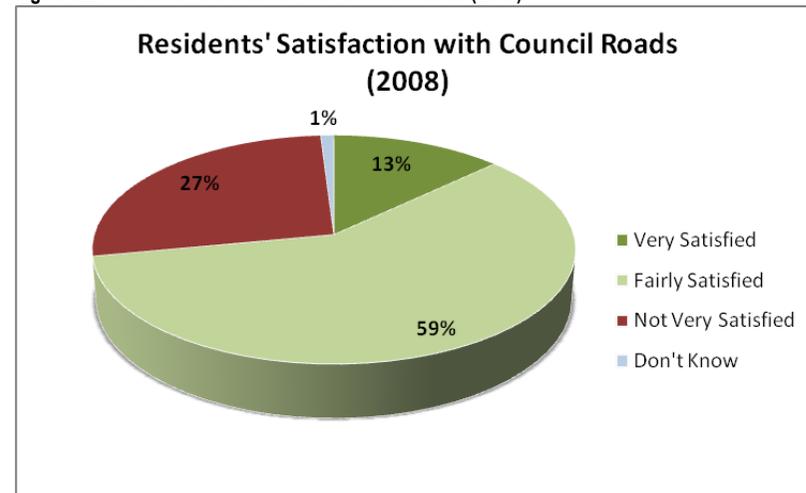
Indicator T6: Residents' Satisfaction with Council Roads

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 tri-annual Communitrak Survey were satisfied with Council roads in 2008.

With 72% of those surveyed being 'fairly' or 'very satisfied', 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%.

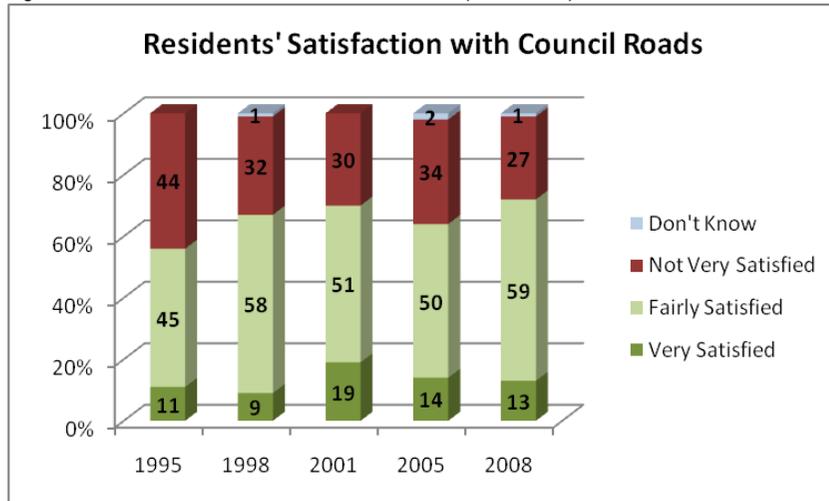
Figure 52: Residents' Satisfaction with Council Roads (2008)



Source: Hastings District Council Communitrak 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 72% in 2008). This may reflect an appreciation of better maintenance of the roading network and/or road infrastructure improvements.

Figure 53: Residents' Satisfaction with Council Roads (1995 – 2008)



Source: Hastings District Council Communitrak Survey

Unfortunately, satisfaction with accessibility and quality of cycleways and walkways in the District is not currently surveyed, nor does Hawke's Bay Regional Council currently survey satisfaction with public transport provision. There is no current data on which to reach a conclusion on these aspects of the District's transportation infrastructure. Future reporting would benefit from adding a suitable question(s) to future Council Communitrak Surveys.

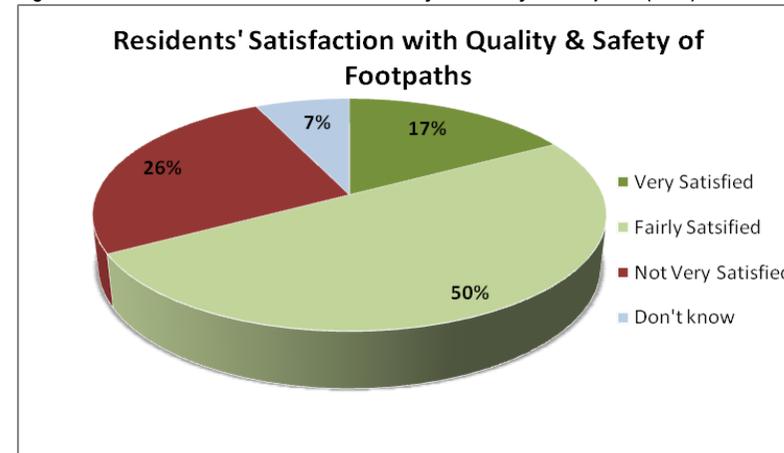
Indicator T7: Residents' Feeling of Safety for Pedestrians and Cyclists

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.

The following graph shows that the majority of those surveyed were satisfied with the quality and safety of footpaths in 2008. Reporting the results of future surveys will enable some trend information to develop over time in this respect.

Figure 54: Residents' Satisfaction with the Quality and Safety of Footpaths (2008)



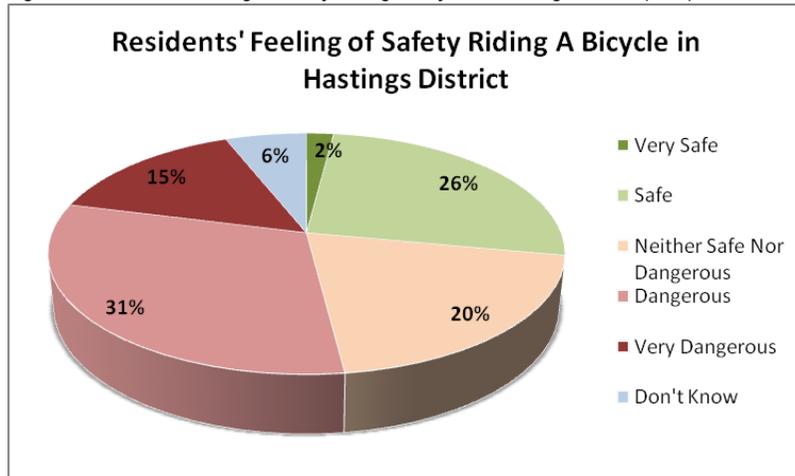
Source: Hastings District Council Communitrak Survey

With 67% of those surveyed being 'fairly' or 'very satisfied', Hastings District had a slightly higher level of satisfaction than that of its peer group of similar provincial Local Authorities (also 65%), but exhibited lower satisfaction than the national average of 73%.

Analysis of the survey results carried out by National Research Bureau (NRB) Ltd notes that residents over 60 years of age, women, those who live in one or two person households, and those who have resided in the District for more than 10 years were more likely to feel less satisfied with the quality and safety of footpaths.

In terms of a feeling of safety while riding a bicycle in the District, the following graph shows that only a little of a quarter of the 503 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.

Figure 55: Residents' Feeling of Safety Riding a Bicycle in Hastings District (2008)



Source: Hastings District Council Communitrak Survey

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 2006. Of note, although there were a higher proportion of people who travelled to work by bicycle in Hastings District compared to the national average in 2006, the number of people cycling to work in the Hastings District has dropped by almost half between 1996 and 2006.

The rate of crashes and casualties per 10,000 people for Hastings District blew out to more than 50 percent 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 in 2008 were trending close to the peer group and national average.

Residents' satisfaction with Council roads has improved at each successive survey since 1995. However, there is no data at present to indicate levels of satisfaction with public transport provision, or cycling and walking facilities.

Residents' satisfaction with the quality and safety of footpaths is reasonably high, but residents' feel riding a bicycle in the Hastings District is relatively dangerous. Future surveys will enable some trend information to develop over time in this respect.

RESPONSES

For Community

- Actively work to support public transport initiatives.
- Take opportunities to walk or cycle to work, school and neighbouring amenities.

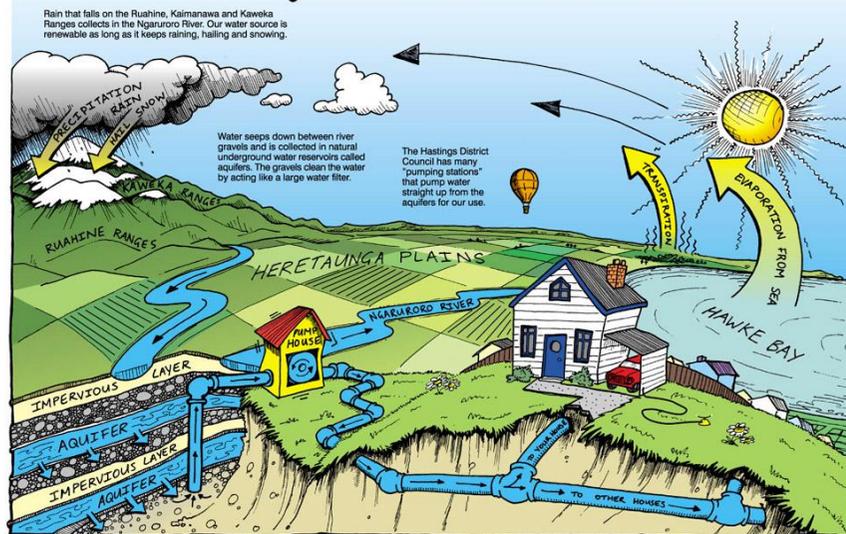
For Council:

- Continue ongoing 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 & cycling to school and work etc.
- In future, Council will survey resident's satisfaction with accessibility to and the quality of public transportation, walkways and cycleways in the District.

Water Management

Water management refers to all aspects of providing freshwater for domestic, commercial and industrial activities within the District.

Where does Hastings District's water come from?



(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 requirements⁶⁸. 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 400km 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).

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.

⁶⁸ Section 2.2.2.5 of the Hastings District Plan.

Indicators for Water Management

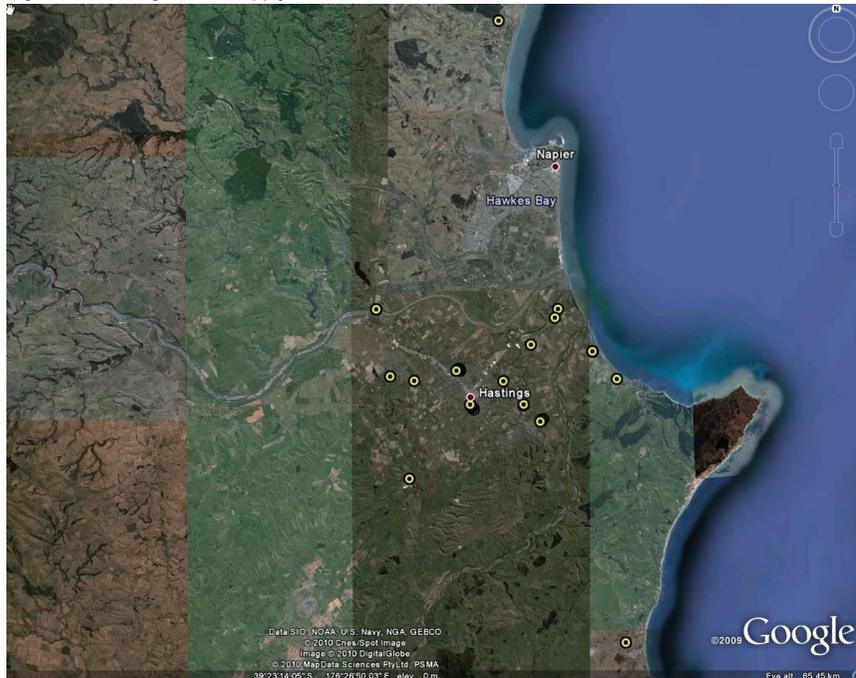
Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
WS1	Consented Water Takes Held by Council for Water Supply Purposes	Pressure	<p>These indicators will enable Council to monitor trends around the security and quality of water services infrastructure, and the quality of drinking water for community consumption.</p>	<p>Section 15.1(Subdivision & Land Development)</p> <ul style="list-style-type: none"> 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.
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 56: Hastings Water Supply – Distribution of Bores⁶⁹



Source: Hastings District Council

Hastings District Council holds 15 resource consents from Hawke's Bay Regional Council for water extraction. These are detailed in the table below.

⁶⁹ Note: the Waipatiki bore is also managed by Hastings District Council but is beyond the area shown in this figure.

Table 12: Hastings District Council Water Supply Consents (as at 2008)

Supply	HBRC Consent No.	Consent Expiry Date	Maximum Peak Flow & Abstraction Rates	
			Litres per second	m ³ in any 7-day Period
Hastings Water Supply	WP010480T	31/5/12	1,068	519,751
Haumoana/ Te Awanga Water Supply	WP050193T	31/5/25	36	21,773
Clive Water Supply	WP050195T & WP050191T	31/5/25	57	17,310
Whirinaki Water Supply	WP030847T & WP980012Ta	31/5/08*	25	16,050
Esk Water Supply	WP970007Ta	31/5/08*	10	1,652
Waimarama Water Supply	WP971281T, WP971282T, WP960084T	31/5/08*	15	3,005
Whakatu Water Supply	WP050192Ta	31/5/25	6	3,810
Omahu Water Supply	WP010478T	31/5/26	14	1,000
Paki Paki Water Supply	WP030368T	31/5/23	23	1,000
Waipatu Water Supply	WP080486Ta	31/5/23	10	176
Waipatiki Water Supply	WP000084Ta	31/5/20	3	910
			TOTAL	586,437

[* These consents have expired and new consents are currently being processed. The previous consents remain in place however, until new consents are in place.]

Source: Hastings District Council

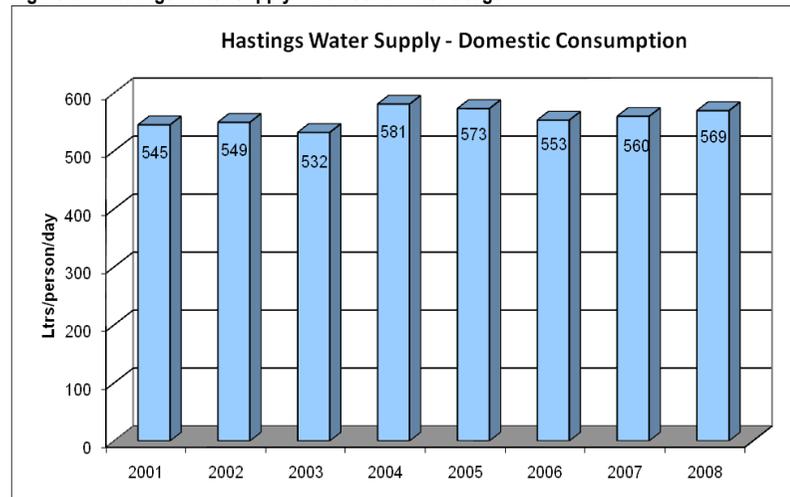
Indicator WS2: Domestic Water Consumption

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%.

Water consumption from public supplies has been increasing steadily with population and industrial growth over the years. Awareness of water conservation methods and reducing leakages in the water infrastructure are also important factors in the overall consumption of water for domestic purposes.

The graph below shows there has been some fluctuation over the period of 2001-2008, with a slight increasing trend. Consumption averaged around 558 litres per person per day over this period. The higher consumption rates in 2004 and 2005 coincide with the drier than normal conditions experienced in Hawke’s Bay over that summer.

Figure 57: Hastings Water Supply – Domestic Water Usage



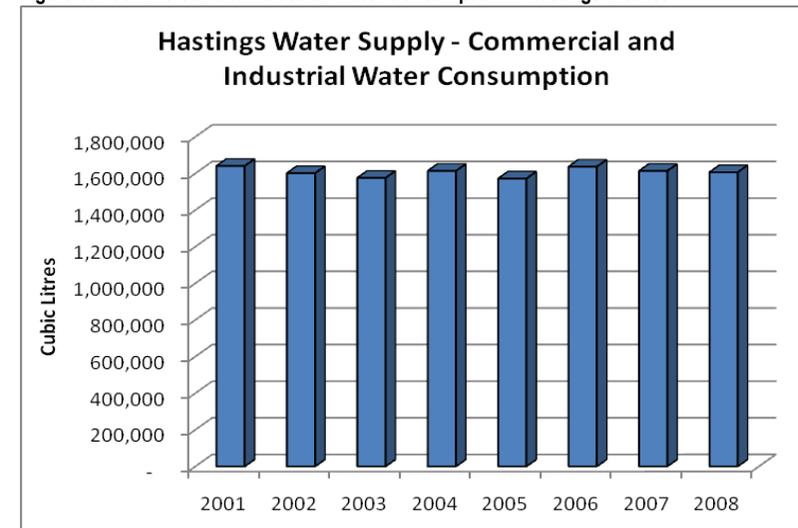
Source: Hastings District Council

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, data may not include leakage and many other unmetered uses which are normally included, as is the case for Hastings⁷⁰.

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 2008.

Figure 58: 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. Therefore 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.

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 14 distribution zones, and 17 treatment plants. The remaining supplies are privately owned and managed.

All the required information to enable a grading to be assessed was supplied to the Hawke's Bay District Health Board in 2006, however no grading has been given to-date. Therefore, as at 31 December 2008, all 11 community supplies managed by Hastings District Council were identified as 'ungraded'. Nevertheless, compliance with drinking water standards is monitored by the Ministry of Health and is published on its drinking water database (www.drinkingwater.co.nz).

It is expected that over time, public health water quality gradings will be provided which will provide an immediate and consistent picture over time of the quality and status of Hastings' water supply.

Indicator WS5: Compliance with Drinking Water Standards

Community drinking-water supplies in New Zealand are expected to demonstrate compliance with either the 2000 or 2005 New Zealand Drinking-Water Standards. These specify water monitoring (ie 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 following table presents information on compliance with the drinking water standards for those community supplies owned and operated by Hastings District Council as at 2006/07.

Table 13: Hastings District Council Water Supplies – Microbiological Monitoring and Compliance Results

Supply	Distribution Zone	Treatment Plants	Complies with Standards 2006/07	Complies 2006/07 for E.Coli	Complies 2006/07 for Protozoa
Clive	Allen Lane/ Ferry Road	Ferry Road	Yes	Yes	Yes
	Valerie St/ Tuckers Lane	Tuckers Lane	Yes	Yes	Yes
Hastings City	Flaxmere	Flaxmere Park	Yes	Yes	Yes
		Frimley Park	Yes	Yes	Yes
		Portsmouth Rd	Yes	Yes	Yes
	Hastings East	Brookvale Rd	Yes	Yes	Yes
	Hastings West & Central	Eastbourne St	Yes	Yes	Yes
Haumoana/ Te Awanga	Haumoana/ Te Awanga	Shrimpton Rd	No	Yes	Yes
Havelock North	Havelock North	Brookvale Rd	Yes	Yes	Yes
		Eastbourne St	Yes	Yes	Yes
		Napier Rd	Yes	Yes	Yes
Omahu	Omahu	Omahu	Yes	Yes	Yes
Paki Paki	Paki Paki	Paki Paki	Yes	Yes	Yes
Waimarama	Waimarama	Okaihau Rd	Yes	Yes	No
Waipatiki	Waipatiki Beach	Waipatiki Beach	Yes	No	No
Waipatu	Waipatu	Waipatu	Yes	Yes	Yes
Whakatu	Whakatu	Ngaruroro Ave	Yes	Yes	Yes
Whirinaki	Whirinaki	Whirinaki	Yes	Yes	No

Source: Water Information New Zealand, as extracted from the National WINZ database on 21 Sep 2009, www.drinkingwater.co.nz.

⁷⁰ 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.

Although currently ungraded, monitoring indicates that almost all of the Council's drinking water supplies are meeting the drinking water standards. The Waimarama, Haumoana/Te Awanga, Waipatiki and Whirinaki water supplies are the only supplies that exhibit aspects of non-compliance.

The Haumoana/Te Awanga distribution zone failed to comply simply as a result of one instance where sampling went too long between samples (due to the required sampling day falling on a non-working day). The Ministry of Health confirmed discretion can be applied to that one test, and the distribution zone is therefore considered to be compliant with the standards.

The Okaihau Rd plant in the Waimarama supply, the Whirinaki plant, and the Waipatiki Beach plant all failed to comply with the Standards for protozoa. This is mainly due to the UV technology employed at those plants. All three plants are assessed based on the 2000 drinking water standards which did not recognise UV treatment (a relatively new technology at the time), and were therefore deemed non-compliant as there was no standard to measure against.

Unfortunately with the new standards in 2005, the UV plants still remain non-compliant, as they are now effectively 'old' UV technology. Whilst the systems provide excellent levels of treatment and meet the intent of the standards, the units will never comply with the new standards. It is proposed that when the equipment is due for renewal, fully compliant systems will be installed. Indications from the Ministry of Health are that this is more than satisfactory.

The Waipatiki Beach plant also had more than the allowable number of detections of E.coli. The Waipatiki water source is plagued with poor source water quality. It is suspected the contamination is from historic septic tank and disposal field failure over many years.

Hastings District Council has taken measures to improve the situation and is working with the Hawkes Bay Regional Council on this issue. It is hoped that the recent installation of a community wastewater treatment system will remove the source of contamination in due course.

For now, the supply has a permanent 'boil water' notice in place, and is chlorine dosed. The Waipatiki water supply serves a very small population (1 permanent resident, 42 established holiday homes, with a further 30 lots yet to be developed, and a small camping ground).

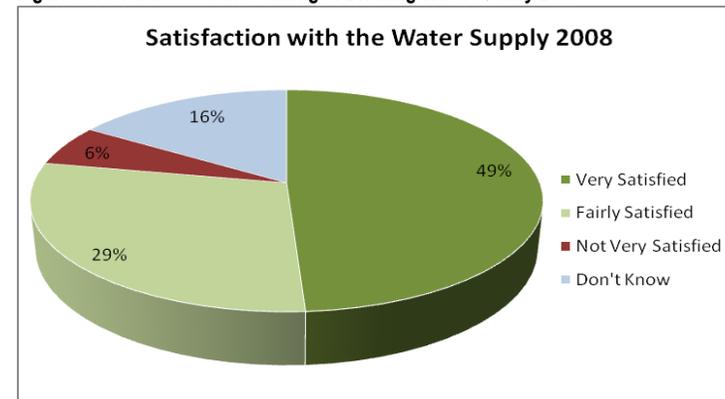
Indicator WS6: Residents' Satisfaction with the Water Supply

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 that the majority of the 503 respondents to the Council's tri-annual Communitrak Survey were satisfied with their water supply in 2008. Overall, 78% of those surveyed were 'fairly' or 'very satisfied'. This includes both public and privately-managed water supplies. This was higher than the peer group of similar provincial Local Authorities (74%), but lower than the national average of 82%.

Of those connected to a supply managed by Hastings District Council (comprising 79% of respondents to the survey), 95% were satisfied with their water supply in 2008 (61% were very satisfied).

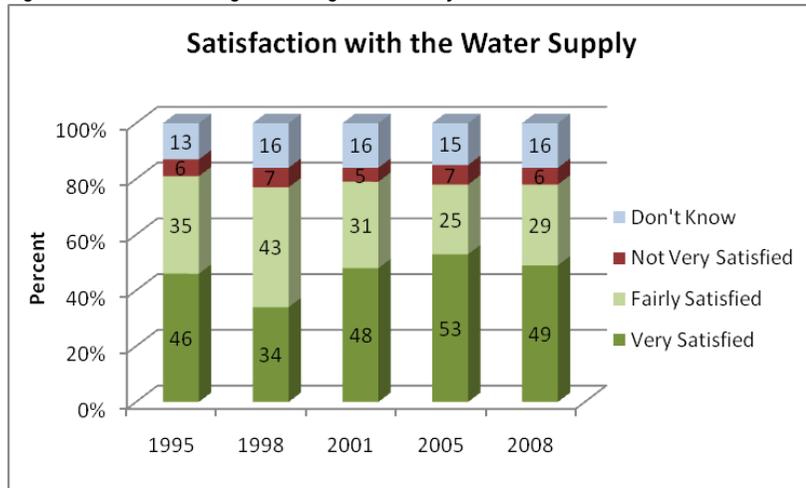
Figure 59: Overall Residents' Rating of Drinking Water Quality 2008



Source: Hastings District Council Communitrak Survey

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 60: 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 2001 to 2008, both domestic and industrial/commercial consumption from Council water supplies has remained fairly stable, with only a slight upward trend in domestic consumption.

Council's water supplies are all generally compliant with national Drinking Water Standards (or at least their intent), with the Waipatiki water supply presenting the only significant issue associated with poor source water quality.

Hastings District Council has taken measures to improve the situation at Waipatiki, most notably through installation of a community wastewater treatment system. The Waipatiki water supply serves a very small population base.

Satisfaction with the water supply in the District is fairly high, particularly for those residents provided with a piped 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.
- Conserve water. Take measures to reduce the wastage of water in your home and workplace 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 & 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).

Wastewater treatment is an essential aspect of the suite of services expected when living and working in urban environments. Developing knowledge and technology in this area has been reflected in efforts to improve the manner in which wastewater is managed and the quality of discharges to the environment.

Hastings has an integrated sewage disposal system serving the communities of Hastings, Flaxmere, Havelock North, Whakatu and Clive, with the District's wastewater treatment plant located at East Clive.

Construction of a new \$27million wastewater treatment plant was commenced and planned for completion in 2009 at East Clive. Up until this point, wastewater was only run through screens but the new plant is expected to improve the quality of the treated effluent discharged to Hawke Bay through the innovative combination of several technologies. The predominant treatment component of the new plant is the use of two biological trickling filters. Biological trickling filters are used to grow bacteria which biologically treat the wastewater.

All industrial wastewater remains treated by the existing milliscreening facility (the Council has separate domestic and industrial sewer networks, which is unusual).

There is also a community sewerage scheme recently installed for Waipatiki in early 2006. This was in response to environmental concerns around water quality in the catchment.

Households in rural areas rely on on-site wastewater treatment systems to treat and dispose of household sewage and wastewater. Properly installed and maintained, this is a hygienic and economical way of disposing of household wastewater. If neglected, it can pollute the environment. For communities relying on septic tanks, effective operation and maintenance is required to prevent the need for expensive sewage schemes.

Council has looked at the feasibility of community schemes for Waimarama & 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 sanitary sewerage 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 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 Wastewater Treatment

Indicator		Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
WW1	Consented Wastewater Discharges held by Council	Pressure	<p>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.</p>	<p>Section 15.1 (Subdivision & Land Development)</p> <ul style="list-style-type: none"> Maintenance of public health and safety. Provision of facilities for wastewater disposal and stormwater disposal for new sites.
WW2	Compliance with Consent Conditions for Wastewater Discharges	Response		
WW3	Volume of Wastewater Produced	Pressure		
WW4	Residents' Satisfaction with the Sewerage System	State		

MONITORING INFORMATION

Indicator WW1: Consented Wastewater Discharges Held by Council

Hastings District Council holds two resource consents granted by the Hawke's Bay Regional Council (HBRC) for the discharge of wastewater from community sewerage schemes:

1. East Clive Wastewater Treatment Plant – for discharge to coastal waters from the marine Outfall:
 - initially granted in 1999 with variations to that consent granted in 2006 and more recently in 2007⁷¹ (HBRC consent reference: CD990260Wb);
 - consent expiry 31 March 2014; and
 - maximum discharge rate of 2800 litres per second.

The discharge point for the East Clive Plant is at the end of a sea outfall between 2,450m and 2,750m long, in 12m of water in the turbulent waters of Hawke Bay.

It has been designed to accommodate sewage disposal from a population of 60,000 and industry activities (equivalent to a population of 940,000 in one location).

2. Waipatiki Sewerage Scheme – for discharge of wastewater to land:
 - granted in 2005 (HBRC consent reference: DP050397L);
 - consent expiry 31 May 2025;
 - maximum rate of application of effluent of 5mm/m²/day; and
 - maximum volume of discharge of 76m³ per day (532 m³ over a 7 day period) during Stage 1, and 172 m³ 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.

It is a two staged scheme, with Stage 1 commissioned in January 2006. Stage 2 will be triggered when either the 76th connection occurs or when the discharge volume reaches 76m³ per day, whichever occurs first.

As at January 2007, approximately 90% of properties designed for connection to the scheme had been connected, with only half a dozen properties still electing to continue with on-site septic tanks.

There is no timeline by which all properties are required to have disconnected their existing systems and joined up to the Waipatiki communal scheme. However, if HBRC compliance monitoring suggests properties that are not connected are exhibiting performance issues, they may be subject to enforcement action which could require upgrading or connection to the scheme. A number of contamination incidents have been detected suggesting there are still problems with the performance of some on-site systems.

⁷¹ The two variations to the consent were in relation to a change in the method of treatment of domestic waste, and the other relating to an extension of time in providing that new method of treatment.

Indicator WW2: Compliance with Consent Conditions for Wastewater Discharges

Monitoring of Council's resource consents for wastewater discharges has indicated that Council is generally complying with conditions on its resource consents.

East Clive Wastewater Treatment Plant

Consent conditions⁷² specify environmental standards for wastewater effluent discharged, as follows:

Analyte	Max Concentration (g/m ³)	Maximum Loading (kg/day)
Chromium	4.0	208
Copper	0.5	26
Zinc	5.0	260
Cadmium	0.2	10
Mercury	0.01	0.5
Lead	0.5	26
Nickel	1.5	78

Consent conditions also require monitoring of:

- wastewater prior to and after biological trickling filter treatment;
- discharged wastewater at the outfall;
- toxicity of the discharged wastewater to three marine organisms;
- seabed sediment;
- mussel tissue from caged mussels at identified offshore locations; and
- water quality up to 1000m radius of the outfall.

The following table shows the monitoring results for the wastewater discharged from the East Clive Treatment Plant between 2002 and 2008 (prior to commissioning of the new plant).

Table 14: Monitoring Results – East Clive Treatment Plant, Wastewater Discharge (2002-2008)

Analyte Consent Standards	2002 (Jun)	2003 (Mar)	2003 (Dec)	2004 (Sept)	2005 (Jun)	2006 (Mar)	2006 (Dec)	2007 (Sept)	
Total Chromium (mg/l)	4.0	0.95	0.53	1.08	0.015	0.52	0.158	1.09	0.39
Total Chromium (kg/day)	208	54	29	70	0.8	26.9	9.2	58.7	18.5
Total Copper (mg/l)	0.5	0.06	0.045	0.045	0.055	0.057	0.061	0.068	0.048
Total Copper (kg/day)	26	3.2	2.4	3.9	3.0	2.9	3.6	3.7	2.3
Total Cadmium (mg/l)	0.2	0.0005	0.00021	0.00003	0.00019	0.00027	0.00029	0.0003	0.00032
Total Cadmium (kg/day)	10	0.027	0.011	0.017	0.01	0.014	0.017	0.016	0.015
Total Mercury (mg/l)	0.01	0.00004	0.00015	0.00004	0.00019	8.7E ⁻⁰⁵	0.00015	0.00086	0.0051
Total Mercury (kg/day)	0.5	0.002	0.004	0.005	0.005	0.004	0.005	0.01	0.005
Total Lead (mg/l)	0.5	0.0078	0.0056	0.0054	0.0042	0.0053	0.021	0.0088	0.0039
Total Lead (kg/day)	26	0.43	0.3	0.36	0.2	0.3	1.2	0.5	0.2
Total Nickel (mg/l)	1.5	0.005	0.0055	0.0056	0.0055	0.0067	0.01	0.009	0.0061
Total Nickel (kg/day)	78	0.27	0.29	0.37	0.3	0.4	0.6	0.5	0.3

Source: Hastings District Council

The above results indicate that the discharge from the East Clive Treatment Plant was well within the above environmental standards over that period.

⁷² HBRC consent reference: CD990260Wb

Hawke’s Bay Regional Council advises there were few complaints linked to the operation of the East Clive Treatment Plant – with only 4 complaints recorded between 2002 and 2008⁷³.

All were related to odour. Three of these were in late October/early November 2006 when the previous bark odour filter was coming to the end of its life – this has since been replaced as part of the Plant upgrade. The fourth complaint was also related to odour from the Plant in February 2008 and was determined to have resulted from lids at the Plant being inadvertently left up.

Waipatiki Sewerage Scheme

Consent conditions⁷⁴ specify environmental standards for wastewater effluent discharged, as follows:

Analyte	Maximum
Nitrogen Loading	150kg/n/ha/yr
BOD ₅	Less than 30mg/L
Total Suspended Solids	Less than 30mg/L
Nitrate Nitrogen	Less than 20mg/L

Consent conditions also require monitoring of the effluent land application area for:

- 5-day Biochemical Oxygen Demand (BOD₅);
- Total Suspended Solids;
- Total Nitrogen;
- Total Phosphorous;
- Faecal Coliforms;
- E.coli.

Currently, the Waipatiki Sewerage Scheme has not been running long enough, and there have not been enough samples provided for a comprehensive assessment of

⁷³ Note: this State of the Environment Report is covers the period to the end of 2008 – more recent issues with odour from the Plant will be addressed in future reporting.

⁷⁴ HBRC consent reference: DP050397L

compliance to be made. Hawke’s Bay Regional Council’s Compliance Officer advises that of the samples that have been provided, BOD₅ & Total Suspended Solids were fully complying, and some samples for Total Nitrogen were not fully complying.

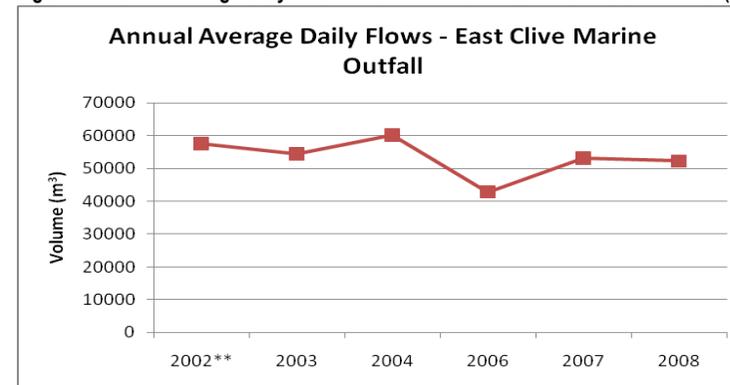
Data on effluent volumes provided to the Regional Council for the period January 2006 to March 2007, indicate that volumes were also well within consent discharge maximums. This is not unexpected as not all properties are fully connected to the Scheme, as yet.

Hawke’s Bay Regional Council advises that there were no complaints associated with the operation of the Waipatiki Sewerage Scheme since its commissioning in early 2006.

Indicator WW3: Volume of Wastewater Produced

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 between 2002 and 2008.

Figure 61: Annual Average Daily Flow of Wastewater at the East Clive Marine Outfall (2002 to 2008)



[** 2002 daily flows measured April to December only]

Source: Hastings District Council

Average daily volumes have fluctuated over the 6-year period, averaging around 53,000m³ per day. There is a slight downward trend in the annual average daily flow rates. This likely reflects water conservation measures particularly in the industrial

sector. For example, pack houses and meat processing plants have moved from traditional use of water (e.g. to transport produce within the chain), to more mechanical means. Greater water efficiency is also evident domestically, with improving water efficient technologies for household appliances etc.

Effluent volume data for the Waipatiki Wastewater Scheme is only available for January 2006 through until March 2007. As a relatively new scheme, properties were still connecting to the scheme during that period. This is also complicated by the fact that newly created lots in the recent subdivision are still being developed. Therefore, volumes are not particularly useful in terms of observing any trends in wastewater quantity at this stage. Such analysis will only be useful once all properties are fully developed and connected to the scheme.

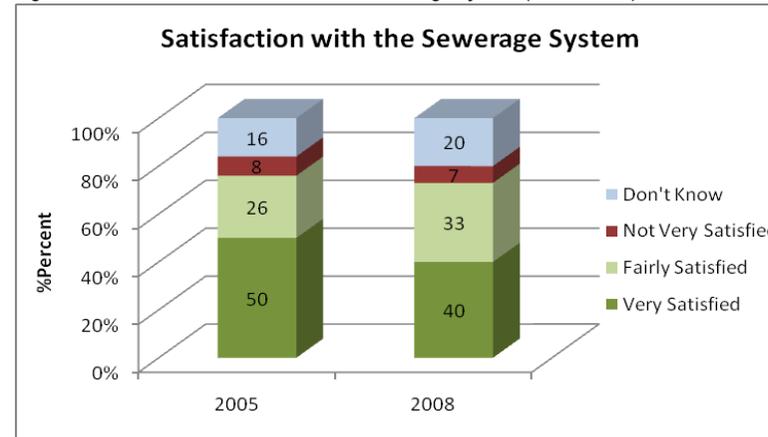
Indicator WW4: Residents' Satisfaction with the Sewerage System

Resident's satisfaction with their sewerage system gives some insight into the state of wastewater treatment and disposal.

The following graph shows that the majority of the 503 respondents to the Council's tri-annual Communitrak Survey were satisfied with their sewerage system in 2008. Overall, 73% of those surveyed were 'fairly' or 'very satisfied', slightly down on 2005 (76%). This includes both public and privately-managed sewerage systems. This was similar to the peer group of similar provincial Local Authorities (72%), but lower than the national average of 82%.

Of those connected to a public sewerage system (comprising 73% of respondents to the survey), 92% were satisfied with the service in 2008 (51% were very satisfied).

Figure 62: Residents Satisfaction with the Sewerage System (1995 & 2008)



Source: Hastings District Council Communitrak Survey

Hastings District Council operates two community wastewater schemes –an integrated sewage disposal system serving the communities of Hastings, Flaxmere, Havelock North, Whakatu and Clive, with the District's wastewater treatment plant located at East Clive; and a community scheme in the coastal settlement of Waipatiki. Council holds resource consents from the Hawke's Bay Regional Council in both instances.

Monitoring compliance with the environmental standards for wastewater discharge specified in the consents, confirms that the discharge from the East Clive Treatment Plant is well within these parameters. Annual average daily flows to the East Clive Marine Outfall are around 53,000m³ per day, and are showing a slight downward trend as a result of households and industry employing more water efficient technologies.

The Waipatiki Sewerage Scheme has only been operating for a short time and whilst flow data and the small amount of wastewater sampling shows that the system is generally in compliance, there is insufficient monitoring data to draw any definitive conclusions at this time.

RESPONSES

For Community

- Do not pour chemicals, paints or thinners (or the like) down any drain.
- If you have an on-site wastewater disposal system:
 - Ensure your system is well maintained, and in good working order. For example, have your septic tank pumped out on average every three years (those with Advanced Waste Water systems should contact the installer/maintenance person for advice);
 - Reduce the amount of water you use. For example, fit low flow shower heads, dual flush cisterns;
 - A kitchen waste disposal unit is not recommended;
 - Use cooking oils sparingly, and household cleaners, detergents, etc., in moderation; and
 - Do not empty spa pools, swimming pools or allow rainwater to flow into the sewage system.

For Council:

- Continue to look at opportunities to make improvements to all wastewater infrastructure, and to service future growth.

Trade Waste Disposal

Businesses have certain responsibilities around how they dispose of waste in the public sewer system.

As at the end of 2008, the separated trade waste system discharging at East Clive had not had a full year of measured operation so it is too early to be able to obtain a full picture on environmental performance. However, the additional treatment of waste water is likely to improve the quality of discharge into the sea.

INDICATORS

The table below shows the indicators that are used to monitor trade waste disposal 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 Trade Waste Disposal			
Indicator	Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
TW1	Amount of Trade Waste Discharged through the Separated Trade Waste Conveyance System	Pressure	<p>These indicators will enable Council to monitor trends around the safety and efficiency of trade waste disposal in the District.</p>
TW2	Number of Industries Connected to the Separated Trade Waste Conveyance System	Pressure	
TW3	Number of Reported Incidents of Non-Complying Discharges of Trade Waste	Pressure	

MONITORING INFORMATION

Indicator TW1: Amount of Trade Waste Discharged through the Separated Trade Waste Conveyance System

At end of 2008 the separated trade waste system discharging at the East Clive Wastewater Treatment Plant had not had a full year of measured operation, so it is too early to obtain a full picture on environmental performance. However, data is being collected for each industry in terms of volume and composition of trade waste discharged to the separated trade waste system. This will assist with future reporting.

Indicator TW2: Number of Industries Connected to the Separated Trade Waste Conveyance System

As at the end of 2008, there are 22 industries connected to the separated industrial sewer. This number increases as new industries start up. Industries tend to stay connected once they are "hooked on". Again, monitoring the growth (or changes) in the types of industries establishing that produce trade waste will be useful over time.

Indicator TW3: Number of Reported Incidents of Non-Complying Discharges of Trade Waste

Hastings District Council focuses on working with industries to resolve issues, rather than imposing penalties. As such, there is limited hard data on trade waste disposal in the District. However, the following reflects feedback on general compliance from Council's Trade Waste Officer.

There are two categories of industries – 'permitted' and 'consented'.

Permitted Industries

The permitted category consists of supermarkets, takeaway shops, garages etc. Any breaches by these operators are dealt with in person rather than issuing a notice.

Anecdotally, this approach appears to be working well and, since July 2005, the Trade Waste Officer has observed that the frequency of breaches in this category has dropped considerably.

Consented Industries

For consented industries, Hastings District Council does not issue fines for breaches of consent. Instead it works with the industry to rectify the problem which led to the breach. When a breach of consent occurs, Council may issue a non-compliance notice.

Since July 2005, 22 non-compliance notices have been issued to consented industries.

There have also been several instances when Council's Trade Waste Officer has observed breaches when carrying out other work in the proximity. These have been dealt with on the spot with no official notices issued.

The most common breaches are:

- exceedance of 'suspended and settleable solids' levels;
- pH levels lower than 6;
- exceedance of 'flow limit'; and
- exceedance of 'floatable fat' limit.

The more serious breaches have been exceedance of the sulphide level, resulting in hydrogen sulphide at the wastewater plant.

Following the issue of a non-compliance notice, if the industry concerned does not take appropriate and timely action to prevent further breaches then a notice of cancellation of consent is issued.

Cancellation of consent has only occurred on one occasion since July 2005, in 2007. The industry in question took action and rectified all the problems identified and obtained another consent once the Council was satisfied with its operations. All other breaches have been minor in nature and dealt with to the Council's satisfaction with no further action needed.

Since July 2005, Council's Trade Waste Officer has observed that the instances of breaches in this category also appear to be getting less frequent and are now mostly due to mechanical failures rather than poor pre-treatment systems.

Future reporting would benefit from formally tracking the number of breaches observed where those did not result in the issue of official non-compliance notices, to obtain a more complete picture of industrial trade waste disposal.

At the end of 2008, the separated trade waste system discharging at East Clive had 22 industries connected to it. It will be worth monitoring volumes of trade waste in the system, and the entry and exit of industries hooking into the system into the future.

Council focuses on working with industries to resolve issues rather than imposing penalties. Council's Trade Waste Officer has observed that breaches and non-compliances are becoming less frequent and less serious, as industries are employing better management systems and have become more responsive to and aware of environmental issues.

Since July 2005, 22 non-compliance notices were issued to consented industries, and 1 which resulted in cancellation of consent.

RESPONSES

For Community

- 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.
- Look at new technologies to assist in meeting conditions of consent/permitted activity standards for trade waste.
- For the wider community, notify Council compliance staff if you observe unsafe trade waste disposal practices.

For Council:

- 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 'hook up' 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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
E1	Electricity Demand	Pressure	<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. <p>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.</p>	NIL
E2	Sustainable Energy Use Projects	Response		

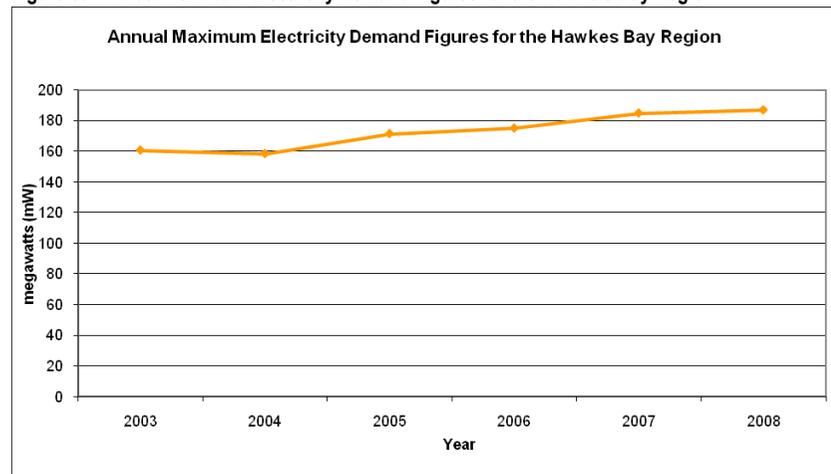
MONITORING INFORMATION

Indicator E1: Electricity Demand

Energy demand specifically for Hastings District is not readily available. The graph below shows the maximum electricity demand for the whole of the Hawke's Bay Region for the period 2003-2008.

It reveals a steady increase in demand from just over 160mW per year in 2003 to almost 187mW in 2008 (an almost 17% increase over the 5-year period). Some of this is likely due to population increase, or new industry. To put this level of demand into context, the Waikaremoana Hydro Scheme produces 138mW per year, and the diesel-fired Whirinaki Power Station produces 155mW per year.

Figure 63: Annual Maximum Electricity Demand Figures for the Hawke's Bay Region



Source: Unison Networks Limited

Annual electricity demand per head of population in Hawke's Bay in 2006 (population 147,783 as at Census 2006) was 1.18kW per person. Future reporting would benefit from comparison with other similar regions, and New Zealand as a whole. Currently, comparable information for other local authority regions is not readily available.

Indicator E2: Sustainable Energy Use Projects

The following organisations in the Hastings District have completed energy efficiency projects in the five years to 2008:

- Hawke's Bay Protein
- Ravensdown
- Heinz Watties
- Hastings Hospital
- McCain's Foods

It is also 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. It would be beneficial to obtaining a picture of energy consumption and energy efficiencies by surveying organisations and businesses.

In 2007, Hastings District Council commenced a Level One Energy Audit⁷⁵ of its twenty highest energy consuming facilities, including the Council Offices, the Opera House, Splash Planet and various water supply pump stations. This generally involved a desk-top comparison of the performance of these facilities where there was comparable data, followed by a walk through to verify potential for energy savings. This audit identified a limited number of areas for potential savings and recommended more detailed investigation of some facilities.

Council has also embarked on a programme to minimise load on the power network from its water supplies, and is currently working with the power authority to allow power shedding i.e. allowing its water pumps to be shut down allowing the power network to sustain higher peak loads during peak power demand. Trials have also been conducted by Council's Transportation team on the use of LED street lights. Council has also embarked on a comprehensive program to supply energy efficient eco light bulbs and other energy conservation programmes.

⁷⁵ 'Level One Energy Management Report', August 2007, prepared for Hastings District Council by Energy and Technical Services.

Electricity demand for the Hawke's Bay region has increased steadily between 2003 and 2008 – by almost 17%. Data at a district level is not currently available.

Annual electricity demand per head of population in Hawke's Bay in 2006 was 1.18kW per person. Future reporting would benefit from comparison with other similar regions, and New Zealand as a whole.

Five organisations within the District completed energy efficiency projects in the 5 years to 2008. 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 retrofitting 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

The Issue at a Glance

Indicator	State	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.
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).
NH3	Number of consents for subdivision/land development within the Natural Hazards RMU	 Resource consents affecting Natural Hazards RMU areas rose between 2003 and 2008, peaking in 2007 with 44 consents (more than double that for 2004).
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.
HS2	Number of reported incidents and callouts to hazardous substances spills	 Spills involving hazardous substances average around 40 reported incidents per year.

Section 30 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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. Safe and secure communities. A lifetime of good health and wellbeing. 	<p>Section 12.3 (Natural Hazards RMU):</p> <ul style="list-style-type: none"> 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. <p>Section 15.1.6 (Subdivision & Land Development):</p> <ul style="list-style-type: none"> 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.
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, 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 & 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.	

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).

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

One of the most common natural hazards in Hawke's Bay are floods - a severe storm or flood happens every 10 years on average.

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 15: Major Storm and Flooding Events Recorded in Hawke's Bay (to 2008)

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.

Year	Date	Event
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 powercuts 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.

Source: Hawke's Bay Civil Defence Emergency Management Group website

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 16: Major Coastal Inundation Events Recorded in the Hastings District (to 2008)

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.

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 is to be addressed in the current 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 27-40°C 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.



Photo: Rural Wildfire
(Source: Hastings District Council)

The following table details the total number of fires reported to the Hastings District Rural Fire Authority in the 5 year period from mid 2003 to mid 2008, and the area of ground cover burnt as a result.

Table 17: Total Number of Fires Reported (2003/04 to 2007/08)

Fire Season	Total Fires Reported	Area of Ground Cover Burnt (hectares)		
		Grass	Scrub	Forest
2003/04	222	62	36	-
2004/05	393	67	101	6
2005/06	242	22.4	60.3	15.5
2006/07	279	6.8	62	26.4
2007/08	235	24.5	64	3.2

Source: Hastings District Council Rural Fire Authority, Annual Fire Return Statistics

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 6 separate occasions between mid 2003 and mid 2008. These were from:

- 21 December 2004 to 23 March 2005;
- 6 January 2006 to 26 March 2006;
- 27 November 2006 to 27 March 2007;
- 14 April 2007 to 5 June 2007;
- 7 December 2007 to 28 February 2008; and
- 31 March 2008 to 18 April 2008.

A Total Fire Ban was declared on 4 separate occasions between mid 2003 and mid 2008. These were from:

- 2 January to 6 January 2006 (5 days);
- 13 & 14 October 2006 (2 days);
- 28 March to 13 April 2007 (17 days); and
- 29 February to 30 March 2008 (31 days).

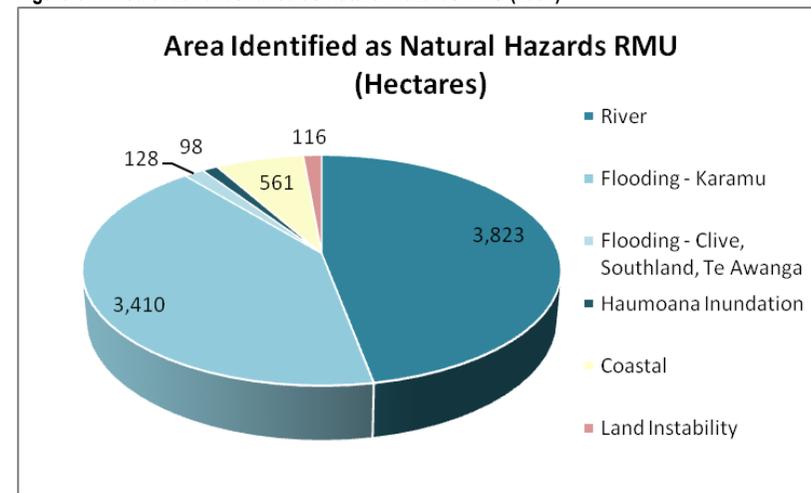
Indicator NH2: Area of Land Identified as 'Natural Hazards Resource Management Unit (RMU)'

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 the 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 modeling. Latest data will likely be applied as part of the current review of the Hastings District Plan.

Figure 64: Area of Land Identified as Natural Hazards RMU (2007)



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.

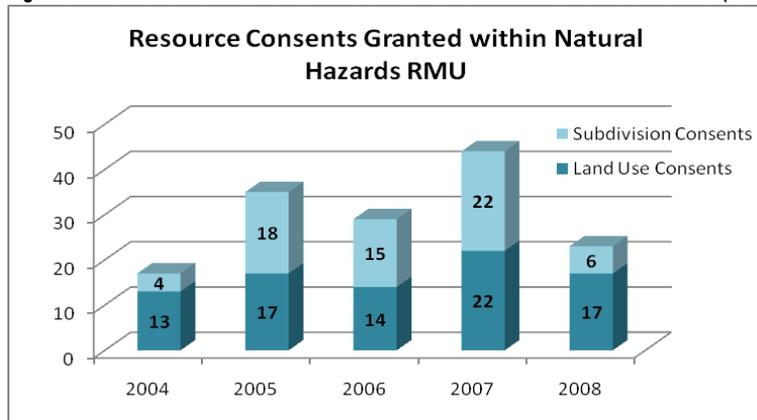
The Fire Hazard RMU comprises areas of the District that do not have a reticulated water supply, but these areas are not identified on the District Planning Maps.

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 2008, there have been a total of 148 resource consents (85 land use and 63 subdivision consents) within the various Natural Hazards RMUs.

Figure 65: Number of Land Use & Subdivision Consents within Natural Hazards RMU (2004 – 2008)



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. This suggests pressure to develop in Natural Hazards RMU areas has not been disproportionately different to development across the District generally.

Data is not currently recorded in a way that can distinguish between the various RMUs. This may be useful for future reporting, in order to see if and where any specific development pressure might be occurring. However, a general indication of

where development is occurring within Natural Hazards RMUs can be attained by looking at the relevant zone.

Of the 148 consents in the Natural Hazards RMU from 2004 to 2008, 33 were in the Coastal Residential Zone, 81 were in the rural zones (Rural, Plains & Rural Residential Zones), and 31 were in the urban zones.

It is likely that the consents in the Coastal Residential Zone triggered either Coastal or Flooding/Inundation Hazards RMU areas. In the rural zones, consents likely triggered either Flooding/Inundation or Land Instability Hazards RMU areas. In the urban zones, consents likely triggered Flooding Hazard RMU areas.

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. Identification and refinement of hazard prone areas is ongoing.

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).

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 HBRC 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 zones⁷⁶, and further areas of land instability risk as they become known.

⁷⁶ 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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> An environment that is appreciated, protected and sustained for future generations. 	<p>Section 13.8.6 (Hazardous Substances):</p> <ul style="list-style-type: none"> 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.
HS1	Number of Consents Involving Employment of the Hazardous Facility Screening Procedure	Pressure	<p>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.</p> <p>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.</p>	
HS2	Number of Reported Incidents and Callouts to Hazardous Substances Spills	Pressure	<p>The number of reported callouts to hazardous substance spills again indicates the potential risks posed to the environment.</p>	

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:

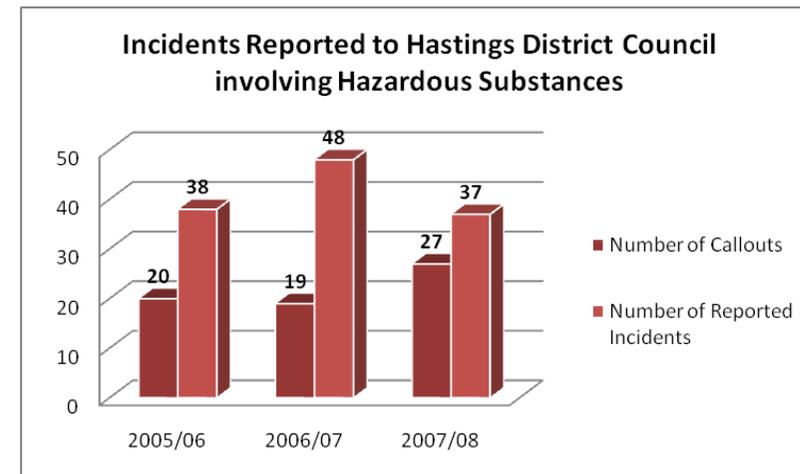
- Maraekakaho Road (for a petrol storage facility);
- Omarunui Landfill (the District's solid waste disposal facility);
- Evenden Road (for storage of hazardous substances associated with a horticultural facility); and
- Brookvale Road (for storage of hazardous substances associated with a horticultural 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.

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 has averaged about 40 reported incidents per year.

Figure 66: Hazardous Substances Incidents & Spills (2005/06 – 2007/08)



Source: Hastings District Council

Most hazardous substance spills are dealt with by the New Zealand Fire Service &/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.

Future reporting would benefit from collating data on callouts to hazardous substance spills notified to, and attended by, the New Zealand Fire Service and/or Hawke's Bay Regional Council's Pollution Response Team, as well as Hastings District Council's own Emergency Management Team.

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 application for the use or storage of hazardous substances.

The number of spills involving hazardous substances reported to Hastings District Council's Emergency Management Team has fluctuated in the 3 years from 2005/06 to 2007/08, but has averaged about 40 reported incidents per year.

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 Ph: (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 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.
- For future reporting, collate data on hazardous substance spills notified and attended by the New Zealand Fire Service and Hawke's Bay Regional Council's Pollution Response Team.



Sustainable Waste Management

The Issue at a Glance

Indicator	State	Summary
Solid Waste		
SW1		Environmental performance of Omarunui Landfill In 2007/08, Omarunui Landfill operations achieved overall Grade 1 compliance for stormwater and discharge to land consents, and overall Grade 2 minor non-compliance for discharge to air, from the HBRC.
SW2		Volume of solid waste disposed 12% decrease in the amount of solid waste being sent to Hastings Refuse Transfer Stations, and 20% decrease in amount of overall waste to the Omarunui Landfill from Napier and Hastings, since 2004/05.
SW3		Composition of solid waste disposed to Landfill The largest proportion (42%) of solid waste disposed of at Omarunui Landfill in 2007 was putrescibles. Paper and plastic products made up 23%.
SW4		Volume of recycling Doubling in the volume of recycling to the District's drop-off facilities over 3 years to 2008. 40% increase in the volume of kerbside recycling since 2003.
SW5		Residents' satisfaction with provision of recycling facilities Increase in households using recycling services to 86%. High satisfaction with provision of recycling facilities with ~80% surveyed being satisfied.

Hazardous Waste

The Issue at a Glance

Indicator	State	Summary
HW1		Volume of hazardous waste disposed HazMobile volumes have trended upwards, peaking in 2006 when 27 tonnes of hazardous waste was collected across the Hawke's Bay Region. Visits to the Hastings collection peaked in 2007 at 404 vehicles
Contaminated Sites		
CS1		Number of confirmed contaminated sites 2 confirmed contaminated sites in Hastings District – former Hastings Gas Works and closed landfill at Roy's Hill. Further sites within the District are on HBRC's Land Use Register, as being properties where hazardous substances are, or may have been, used or stored.

Section 30 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).

Construction of the landfill began in 1987 and the site commenced operation in late 1988.

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 How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
			<ul style="list-style-type: none"> 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	Volume of Recycling	Pressure		
SW5	Residents' Satisfaction with Provision of Recycling Facilities	State	Recycling reduces the amount of waste being disposed to the landfill (it's a 'reuse' aspect of waste management).	

MONITORING INFORMATION

Indicator SW1: Environmental Performance of Omarunui Landfill

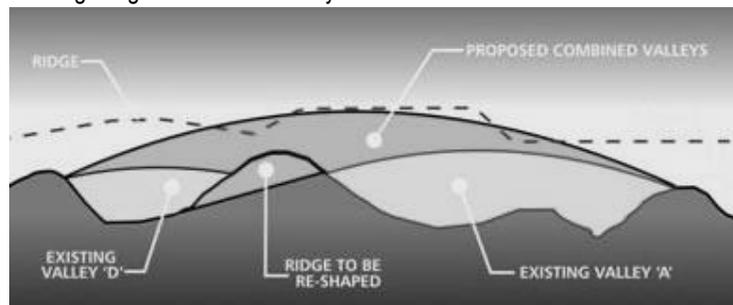
Four valleys were identified on the Omarunui Landfill site for refuse disposal at the time of commissioning the landfill in 1988. Estimates are that the Omarunui Landfill will serve the Hastings and Napier communities for 50+ years, with the possibility of a further 20 years capacity in an adjoining area currently planted in forest.

The lifespan of the landfill depends on the amount of waste being disposed at it. Reducing the amount of waste going to the landfill means the landfill will service the District for longer. The longer the landfill lasts, the less impact our waste disposal will have on the environment, through postponing the need for another landfill.

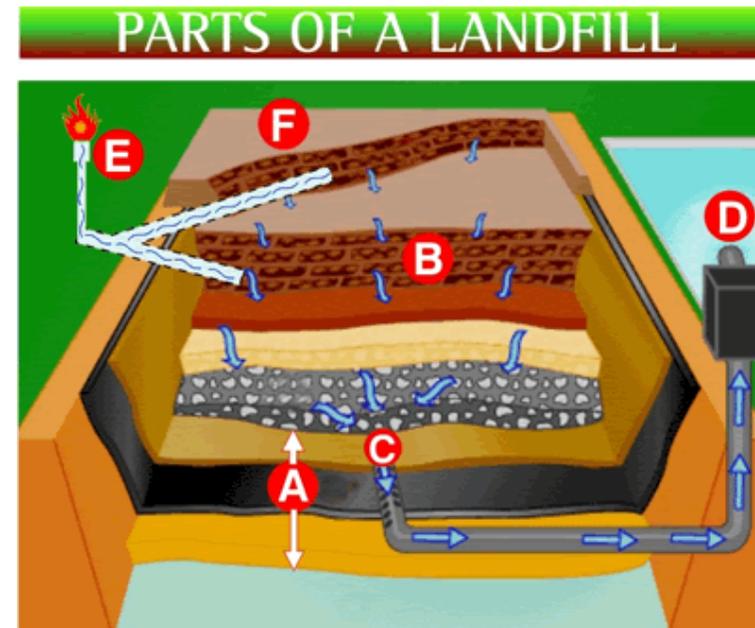
The Omarunui Landfill is a fully contained landfill, meaning nothing should leave the site by way of pollution. Leachate is collected and re-circulated and methane gas is flared off to reduce the impact on the environment. The Landfill is accredited with an ISO9000 :2001 environmental management system.

Construction of Valley D (the currently active part of the landfill) includes a three liner system using; clay, Geosynthetic liner and HDPE plastic liner. The use of these liners in the construction of Valley D will ensure that Omarunui adheres to best international practice, making it one of the best landfill operations in New Zealand.

The following images show the final layout of the Omarunui Landfill in 2018.



(Source: Napier City Council)



THE BASIC PARTS OF A LANDFILL, AS SHOWN ARE:

- A** Bottom liner system - separates trash and subsequent leachate from groundwater
- B** Cells (old and new) - where the rubbish is stored within the landfill
- C** Storm water drainage system - collects rain water that falls on the landfill
- D** Leachate collection system - collects water that has percolated through the landfill itself and contains contaminating substances (leachate)
- E** Methane collection system - collects methane gas that is formed during the breakdown of rubbish
- F** Covering or cap - seals off the top of the landfill

(Source: Hastings District 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 2006/07 and 2007/08 years indicated that the landfill generally complied with its conditions of consent.

In 2006, there were a few minor to moderate non-compliances associated with:

- minor temporary odour control issues when the working face of the landfill was occasionally left uncovered at the end of the working day;
- minor temporary issues with a malfunctioning gas flare which was being replaced; and
- one-off issue from silting up of stormwater retention ponds after a major rainfall event in May 2006 causing discolouration in the Swamp Road drain. Silt was dug out of the stormwater retention pond to return it to full functioning.

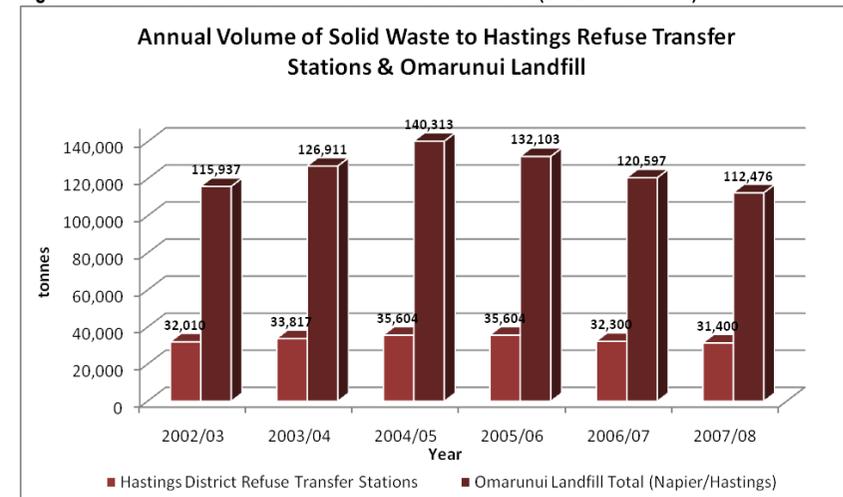
None of the non-compliances were serious breaches, and all matters were addressed to the Regional Council's satisfaction. No non-compliances resulted in significant or long term adverse effects on the environment. In 2007/08, Omarunui Landfill operations achieved an overall Grade 1 compliance for DP040121W and DP040120La, and an overall Grade 2 minor non-compliance for DP040122A.

Indicator SW2: Volume of Solid Waste Disposed

Most of the waste that comes to the landfill is from 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.

The following graph shows the volume of solid waste received at the two refuse transfer stations in Hastings District, and the total volume of waste received at Omarunui Landfill (being the combined volume of waste from the refuse transfer stations, commercial waste operators and industrial waste sources from both Napier City and Hastings District).

Figure 67: Volume of Solid Waste to Refuse Transfer Stations (2002/03 – 2007/08)



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 (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

Solid Waste Analysis surveys are carried out at the Omarunui Landfill every third year.

In 2002, the Ministry for the Environment published a revised Solid Waste Analysis Protocol to facilitate the collection of consistent and reliable data on solid waste in New Zealand. The Protocol includes:

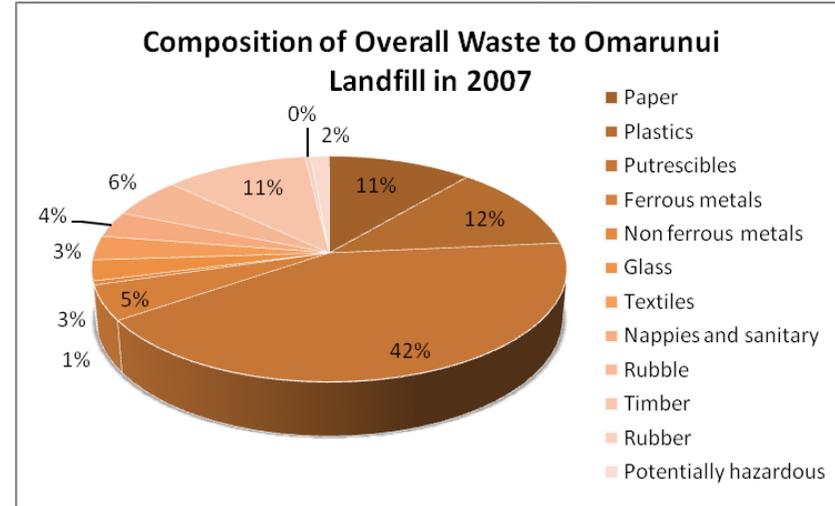
- a classification system for component materials in the waste stream;
- two survey procedures to measure the composition of the waste stream (Procedure One – classification of domestic wastes at source, and Procedure Two – classification at disposal facility); and
- guidance on sampling regimes, and the long-term programme for surveying using Procedures One and Two.⁷⁷

The first survey of solid waste using the 2002 Solid Waste Analysis Protocol was carried out in 2007 for Hastings District and Napier City Councils⁷⁸. The survey report contains detailed information on composition resulting from both a visual and 'sort and weigh' audit.

⁷⁷ Solid Waste Analysis Protocol, 2002, Ministry for the Environment.

⁷⁸ Survey of Solid Waste for Hawke's Bay, September 2007, Waste Not Consulting.

Figure 68: Composition of Overall Waste to Omarunui Landfill (2007)



Source: Hastings District Council

In 2007, the largest proportion (42%) of the waste being disposed off at the Omarunui Landfill was putrescibles, which is material that is likely to rot or decay, such as organic material (food scraps, garden waste etc). Paper and plastic products made up 23% of the waste that was sent to 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.

Indicator SW4: 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 80% of the District’s population.

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).

Table 18: Volume of Recycling

Recycling Facilities	Tonnes Per Annum				
	2004	2005	2006	2007	2008
Blackbridge RTS – Drop Off Facility *	-	-	117.6	153.9	161
Henderson Rd RTS – Drop Off Facility *	-	-	482.8	550.5	997
Martin Place – Recycling Depot *	-	-	322.5	514	700.25
Kerbside Recycling Collection	2,727	3,043	3,209	3,937	3,877
TOTAL	2,727	3,043	4,131.9	5,155.4	5,735.25

* Figures for Drop Off facilities have only been collated since 2006 (since installation of 2 additional sites).

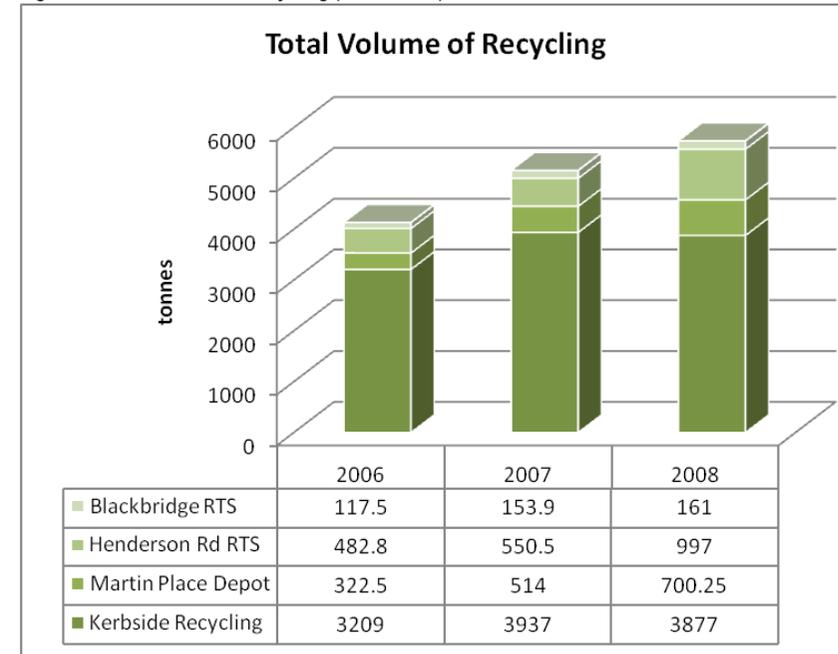
Source: Hastings District Council

The results of this indicator show a positive trend for volumes collected from kerbside recycling since it was introduced in 2003. Volume has increased more than 40% between 2004 and 2008 to 3,877 tonnes.

There was also a doubling in the volume of recycling to the District’s drop-off facilities over the three years from 2006 to 2008, to 1,850 tonnes.

Overall, the total volume of recycling has increased almost 40% (1,600 tonnes) in just three years from 2006 to 2008.

Figure 69: Total Volume of Recycling (2006 – 2008)



Source: Hastings District Council

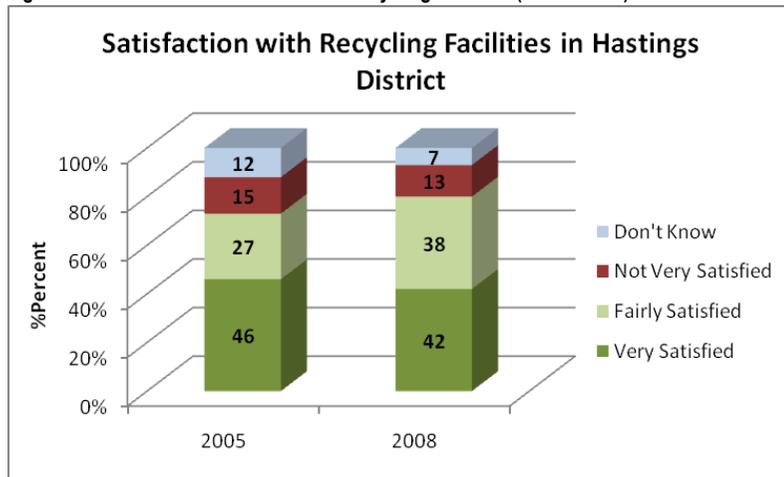
This shows that the community is increasingly using the service to recycle goods that would otherwise have ended up in the landfill.

Indicator SW5: Residents' Satisfaction with the Provision of Recycling Facilities

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.

Figure 70: Satisfaction with Provision of Recycling Facilities (2005 & 2008)



Source: Hastings District Council Communitrak Survey

Overall, 80% of those surveyed in 2008 were 'fairly' or 'very satisfied' (42% were very satisfied), which was higher than in 2005 (73%).

Only 13% were not very satisfied which was similar to the national average (14%), but considerably better than the peer group of similar provincial Local Authorities (23%).

Approximately 86% of households surveyed say they use Council's recycling services – up from 77% in 2005. This suggests that demand for recycling facilities is largely being met, and that more households are increasingly using these services.

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. Its expected lifespan is 50+ years, with the possibility of a further 20 years depending on another area being investigated.

In 2007/08, Omarunui Landfill operations achieved overall Grade 1 compliance for its stormwater and discharge to land consents, and overall Grade 2 minor non-compliance for its discharge to air consent, from the Hawke's Bay Regional Council.

There has been a gradual decrease in the amount of waste being sent to the Refuse Transfer Stations in recent years, and a 20% drop in 3 years for the total annual volume of waste sent to the Omarunui Landfill since 2004/05. When viewed alongside data showing that the volume of waste being recycled has significantly increased since 2004, 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.

Approximately 86% of households surveyed say they use Council's recycling services – up from 77% in 2005. Of all those surveyed, 80% 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:

- 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 Outcome and How it Informs this Outcome	Relevant District Plan Outcomes
HW1	Volume of Hazardous Waste Disposed	Pressure	<p>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.</p>

MONITORING INFORMATION

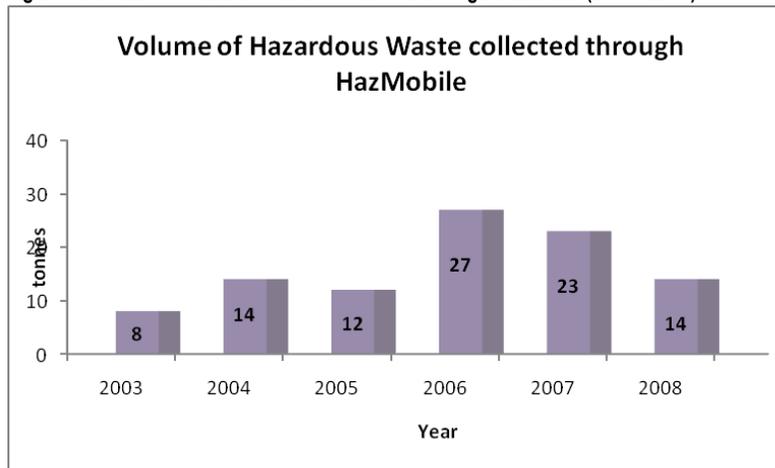
Indicator HW1: Volume of Hazardous Waste Disposed

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 24 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 borrowed from 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. The case-study presented at the end of this section provides more detail about the HazMobile.

Figure 71: Volume of Hazardous Waste Collected through HazMobile (2003 – 2008)



Source: Hastings District Council

The previous graph shows the volume of hazardous waste collected through HazMobile from 2003 to 2008 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.

In 2008, 317 vehicles visited the Hastings collection. This was down on the peak in 2007 of 404 vehicles. The general feeling is that visits to the HazMobile have plateau'd.

Increasing use 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.

Council's Waste Minimisation Officer has observed that the higher toxicity materials are generally being taken out of the system through design, user pays services or through being run out.

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 'Operation Springclean' which services the District's farms twice yearly.

Industry-wise, there is a growing awareness of the need for careful management and disposal of hazardous waste 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.

It is difficult to determine the amount of hazardous waste in the District as there are numerous avenues for its disposal.

Hastings District and Napier City Councils and Hawke's Bay Regional Councils run a mobile collection service once a year (known as HazMobile) for residents to drop off household hazardous wastes. Industries and businesses are required to have other arrangements to dispose of their hazardous waste.

The volume of hazardous waste collected by the HazMobile has trended upwards, peaking in 2006 when 27 tonnes of hazardous waste was collected across the Hawke's Bay Region. Visits to the Hastings collection peaked in 2007 at 404 vehicles.

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: HAZMOBILE



What is HazMobile?

HazMobile is a free hazardous waste collection service provided by the Council, along with the Napier City Council and the Hawke's Bay Regional Council.

It visits Hastings once a year for householders to deliver and dispose of any hazardous waste.



What Kinds of Waste does HazMobile Take?

- Paints, solvents and paint strippers
- Wood preservatives
- Glues and resins
- All types of garden chemicals
- Petrol, oil and diesel
- Care care products
- All types of cleaners
- Pool Chemicals
- All types of batteries
- Gas cylinders
- Light bulbs



What Happens to the Hazardous Substances?

Most of the waste collected is recycled or re-used. Intractable wastes are sent to Europe for high temperature incineration.

For more information...

Visit the website

www.hastingsdc.govt.nz/rubbish/HazMobile

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 the site 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.

Currently there is only limited information about the nature and number of contaminated sites in the District. 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.

INDICATORS

The table below shows the indicators that are used to monitor contaminated sites 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 Contaminated Sites			
Indicator	Indicator Type	Relevant Community Outcomes and How it Informs these Outcomes	Relevant District Plan Outcomes and How it Informs these Outcomes
CS1	Number of Confirmed Contaminated Sites	State	Identifying and remediating sites within the District that are contaminated safe-guards people and the environment for future generations by managing the effects of contaminated land.

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Indicator CS1: Number of Confirmed Contaminated Sites

A broad desktop study carried out in 1995 using phone books and business directories dating back to the 1930s coarsely identified 3,102 properties in the Hawke's Bay Region that may have used or stored hazardous substances, commonly known as HAIL (Hazardous Activities and Industries List). 1,732 of these were in Hastings District.

Hawke's Bay Regional Council has melded this data with its existing Land Use Register information, ruling a number of sites out and resulting in significantly fewer sites than identified in the HAIL List.

Sites on the Land Use Register are categorised based on verification and level of investigation for each site. In categorising sites on Land Use Registers, a number of sub-categories have been developed⁷⁹. These are detailed below.

Table 19: Sub-categories for Contaminated Land Management Guideline No 4. Classification and Information Management Protocols

Information for Internal Use on Council Register	
1. Unverified HAIL	The relevant land-use history has not been confirmed. The site has been reported as one that appears on the Hazardous Activities and Industries List, but the reported use has not been confirmed.
2. Error. NB This information is for internal use only and is not released	The site has been entered on the register in error. Information shows that this site has never been associated with any of the specific activities or industries on the Hazardous Activities and Industries List.
All sites with a Verified HAIL status move to the next stage of categorisation:	
3. Not investigated	The site has not been investigated
4. Partially investigated	The site has been partially investigated. Investigations demonstrate that there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment.

⁷⁹ These sub-categories were compiled by the working group reporting to the Regional Waste and Contaminated Land Officers' Forum, 23 May 2008, and further refined the three categories contained in the Ministry for the Environment's Classification and Information Management Protocols (2006).

5. Managed for <land use>	The site has been investigated. Investigations demonstrate that there are hazardous substances present at the site. Adverse effects or risks to people and the environment are managed through a site management plan approved by the appropriate council/s.
6. Remediated for <land use>	The site has been remediated. Validation sampling demonstrates that there are hazardous substances present at the site, but indicates that any adverse effects or risks to people and the environment are considered to be so low as to be acceptable.
7. Hazardous substances acceptable for <land use>	The site has been investigated. Investigations demonstrate that there are hazardous substances present at the site, but indicate that any adverse effects or risks to people and the environment are considered to be so low as to be acceptable.
8. Hazardous substances at or below background	The site has been investigated or remediated. The investigation or validation results confirm that there are no hazardous substances above local background concentrations. Local background concentrations are those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed, in terms of locations sampled and analytes tested, to characterise the site.
9. 'Contaminated Land' based on <land use>	The site has been investigated. Results demonstrated it is land of one of the following kinds: (i) if there is an applicable national environmental standard on contaminants in soil, the land is more contaminated than the standard allows; or (ii) if there is no applicable national environmental standard on contaminants in soil, the land has a hazardous substance in or on it that – (i) has significant adverse effects on the environment; or (ii) is reasonably likely to have significant adverse effects on the environment. (s2 RMA 1991)
10. Significant adverse environmental effects	The site has been investigated. Results demonstrated that sediment, groundwater or surface water has hazardous substances in or on it that – (i) have significant adverse effects on the environment; or (ii) are reasonably likely to have significant adverse effects on the environment

Source: Hawke's Bay Regional Council

The intention was for these sub-categories to be accepted for use in council contaminated land registers, on LIM/PIMs, within property files, in response to specific information requests, and for use in State of the Environment reporting by the Ministry for the Environment.

Examples of the types of properties that may be on the Land Use Register include agricultural contractors, hotels, transport operators, garages, retailers, dry cleaners and tanneries.

The fact that an activity or industry appears on the Land Use Register does not mean that hazardous substances were used or stored on all sites occupied by that activity or industry, nor that a site of this sort will definitely have high levels of hazardous substances present in the soils.

The Register merely indicates that such activities and industries are more likely to use or store hazardous substances and therefore there is a greater probability of site contamination occurring than other uses or activities. Conversely, an activity or industry that does not appear on the list does not guarantee such a site will not be contaminated. Each case must be considered on its merits, considering the information at hand and the use of that land.

In applying the Register, it must be remembered that the activity may only have occupied a small part of the site, and therefore the possibility of contamination will also only be for a small part of the site.

The sites on the Regional Council's Land Use Register are being progressively investigated, verified or remediated. The Register will continue to be refined as the results of further investigative work becomes available.

As at 2008, there are only 2 confirmed contaminated sites in the District, being:

1. The site of a former 'Gas Works' at 401 Karamu Road South, Hastings; and
2. The site of a former 'Landfill' on SH50, Roy's Hill.

The former Hastings Gas Works is a 'managed' site, and the closed landfill in Roy's Hill has been capped and is being redeveloped into a public green space.

As at 2008, there are only 2 confirmed contaminated sites in Hastings District, being the former Gas Works in Karamu Road South in Hastings, and the closed landfill at Roys Hill.

In addition, there are further sites in the District that are on the Hawke's Bay Regional Council's Land Use Register, as being properties where hazardous substances are, or may have been, used or stored.

RESPONSES

For the Community

- 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 creating further contaminated sites.

For Council:

- Continue to work with the Hawke's Bay Regional Council and landowners to identify and appropriately manage contaminated sites in the District.
- Support public information and education campaigns around identification and management of contaminated sites in the District.

