

# HAZARD MANAGEMENT



## HAZARD MANAGEMENT ACTIVITIES

Hazard management comprises the following activities:

**Civil defence emergency management** — promoting and enhancing, within the Taranaki community, an integrated comprehensive emergency management system including reducing risk, maintaining readiness, and providing response and recovery capacity and capabilities

**Flood management and general river control** — providing accurate and timely flood warnings, providing flood control advice and undertaking minor works and associated actions to minimise and prevent damage by floods and river erosion

**River control schemes** — managing and maintaining river control scheme works to accepted design standards to minimise and prevent damage by floods and river erosion

## HAZARD MANAGEMENT AND COMMUNITY OUTCOMES

The Hazard management group of activities contributes to community outcomes by enhancing the safety and wellbeing of the public and the protection of property from hazards and minimising and preventing damage by floods and river erosion.

Specifically this group of activities contributes to the following community outcomes:

- **Secure and Healthy Taranaki**
- **Prosperous Taranaki**
- **Sustainable Taranaki.**

## RATIONALE AND BACKGROUND

The Civil Defence Emergency Management Act 2002 (the Act) provided a fundamental change in the basis and accountability for emergency planning and management in New Zealand. It provides for a comprehensive all-hazards approach to civil defence emergency management, integrated across a region, and requires agencies to focus on risk reduction, readiness, response and recovery. Traditional civil defence focused on the response to an event and did not fully incorporate non-natural hazards such as civil unrest, public health or an agricultural emergency.

Civil defence emergency management:

- promotes sustainable management of hazards
- encourages and enables communities to define and achieve acceptable levels of risk

- provides for planning and preparation for emergencies, and for response and recovery
- requires local authorities to co-ordinate Civil Defence Emergency Management planning and activities as a single structure
- provides a basis for the integration of national and local civil defence emergency management
- encourages co-ordination across a wide range of agencies, recognising that emergencies are multi-agency events.

A Taranaki Civil Defence Emergency Management Group has been established to implement this approach. It was formed as a joint standing committee comprising of the chair or mayor (or elected representative) from each of the region's local authorities. The Civil Defence Emergency Management Group for Taranaki incorporates the Taranaki Regional Council, New Plymouth District Council, Stratford District Council and South Taranaki District Council. The Taranaki

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Regional Council is the administering authority of the Civil Defence Emergency Management Group.

The functions of the Civil Defence Emergency Management Group are embodied in the *Taranaki Civil Defence Emergency Management Group Plan 2004*. They include the co-ordination of civil defence emergency management planning, programmes and activities across the region, carrying out risk management, planning for emergency management by developing, implementing, monitoring and reviewing a civil defence emergency management group plan, and delivering emergency management based on a single response arrangement. To that end the Council's Emergency Management Office is involved in the day-to-day administration, recruiting and training of staff, as well as maintenance of organisations and systems capable of responding at short notice, across the region.

The Civil Defence Emergency Management Group has formed a Co-ordinating Executive Group (CEG), consisting of the chief executive or senior officer of each local authority and the District Health Board together with senior officers from the NZ Police and NZ Fire Service, to implement decisions of the Civil Defence Emergency Management Group and oversee the *Civil Defence Emergency Management Group Plan*.

For the 2009/2010 year the Council will implement the 2009/2010 *Taranaki Civil Defence Emergency Management Business Plan*. Progress will continue on the implementation of the strategic *Civil Defence Emergency Management Group Plan*.

River control and flood protection comprises the Council, acting as a catchment authority in the exercise of its duties and functions under the Soil Conservation and Rivers Control Act 1941. This Act requires the Council to minimise and prevent damage by floods and erosion. Specifically, this involves providing advice and assistance to landholders on matters relating to the control of rivers and flooding. Flood protection schemes are constructed and maintained as deemed necessary. These infrastructure assets are maintained according to the Council's policy, in as new condition. In addition, a regional flood event operating procedure is maintained and actioned as necessary.

Taranaki does not have large flood plains, as is the case in many regions of New Zealand. Flood control activities have accordingly been of relatively modest proportions. Four significant schemes exist. The first of these comprises flood detention and routing works on the Huatoki and Mangaotuku streams to provide protection in central New Plymouth. These scheme works are owned, administered and maintained by the New Plymouth District Council under delegation from the Council. They were substantially constructed during the last thirty years.

The three other significant schemes are managed and maintained by the Council. The Council also owns the flood control assets of these schemes.

The Lower Waitara River Flood Control Scheme comprises a series of channel training and stopbank structures, which provide a level of

protection for the flood plain within the township of Waitara. These works were substantially upgraded during 1993/94. Annual routine maintenance costs are relatively minor.

The Lower Waiwhakaiho River Flood Control Scheme involves stopbanks through the Glen Avon-Valley area of New Plymouth as the main component of the flood control assets. Routine annual maintenance costs are also relatively small. Investigations are presently underway towards substantially upgrading the level of protection offered by the scheme, noting developments in the lower Waiwhakaiho Valley.

The Waitotara River Scheme has few structural assets but rather comprises a continuous programme of channel maintenance for flood management.

District-based targeted rates are used to fund the maintenance requirements of both the Waitara and Waiwhakaiho schemes. For the Waitotara scheme, the South Taranaki District Council is a funding partner in lieu of a targeted rate.

In 2008 the Council adopted updated ten-year asset management plans for both the Lower Waitara River and Lower Waiwhakaiho River schemes, scheduling the necessary works to maintain the design capacity of them. The programme herein is based on those plans.

There are a number of other small rural flood control/drainage schemes in the region. The Council does not own any flood control assets associated with these schemes. However, it does facilitate maintenance activities in association with affected landowners.

Although the majority of the region's watercourses are relatively small in size and length, frequent high flows cause channels to be quite active necessitating on-going surveillance and occasional maintenance.

Storms, particularly northerly cyclonic storms, periodically cause localised flooding problems. These often result in the Council implementing emergency river and flood control works, such as small channel diversions, or debris clearance. The Council intends to continue to provide a reasonable capability to respond to contingency events in the future.

The Council also maintains flood warning systems based on its telemetered hydrometric network. These will continue to be maintained and enhanced in the future.

Council carries out its river control and flood protection functions in accordance with the sustainable management purpose and principles of the Resource Management Act 1991. From time to time, the Council will also facilitate specific river control projects for the environmental enhancement of the region's waterways. In addition, the Council's sustainable land management and riparian programmes outlined in the Land Management section of this Plan, will promote the maintenance and restoration of the natural character of waterways and their margins throughout the region.

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## LEVELS OF SERVICE

### 1. Maintaining a civil defence emergency management system that delivers efficient and effective civil defence emergency management in Taranaki that is acceptable to the community.

- **Measure:** Presence of an appropriate Civil Defence Emergency Management system.

**Target:** A Civil Defence Emergency Management Group Plan that is kept current and resourced in accordance with statutory requirements.

*The Civil Defence Emergency Management Group Plan for Taranaki became operative in November 2004. Work on its review is to begin in 2008/2009.*

- **Measure:** Delivery of contractual requirements.

**Target:** All contract requirements to provide emergency management office and administering authority services to the Civil Defence Emergency Management Group are delivered as specified.

*On-going contracts are in place for controller and recovery facilitator functions and for communication facilities servicing*

### 2. Progressing community understanding and awareness of hazards, risks and responses.

- **Measure:** Implementing the *Civil Defence Emergency Management Public Education Plan*.

**Target:** Full programme implementation each year.

*The Public Education Plan has been in place since 2005*

- **Measure:** Level of public awareness and engagement in risk reduction and preparedness

**Target:** Maintenance and enhancement of public awareness (measured through regular surveys).

*A public awareness survey was conducted in 2005. The next survey is scheduled for 2010*

### 3. Maintaining the emergency readiness and response capability and capacity in the region

- **Measure:** Level of capacity and capability within the CDEM Group

**Target:** Group readiness and response capability and capacity to be maintained at or enhanced above the level as set out in the *2004 Group Plan* (capability and capacity to be assessed by MCDEM monitoring and evaluation analysis tool when provided).

- **Measure:** Implementing effective response and recovery procedures to minimise harm or damage to people and property arising from an emergency.

**Target:** Response and recovery is carried out in accordance with established plans and procedures in order to minimise harm or damage to people and property.

*Response and recovery procedures are set out in Standard Operating Procedures current as of July 2008.*

### 4. Maintaining flood protection and drainage schemes to protect life and property.

- **Measure:** The number of schemes maintained to their full service potential.

**Target:** 100% of schemes maintained to full service potential as provided in adopted asset management plans.

*As of July 2008, the Waitara and Waiwhakaiho flood control schemes were maintained to their full service potential, as were the minor central Taranaki schemes. The Waitotara river clearance and maintenance is proceeding in accordance with the agreed 'Proposed river clearance and maintenance programme for the Waitotara.'*

- **Measure:** The level of protection provided by the Waiwhakaiho River flood control scheme

**Target:** Increase in flood protection level in the lower Waiwhakaiho River basin from 2% annual exceedance probability(AEP) (or 1 in 50 years), to 1% AEP (or 1 in 100 years), subject to final adoption of reviewed asset management plan.

### 5. Providing accurate and timely flood warnings.

- **Measure:** Number of accurate and timely flood warnings issued.

**Target:** Accurate and timely flood warnings issued in 100% of cases.

*In 2007/2008 the Council issued warnings in 100% of cases.*

## FURTHER INFORMATION ON POLICIES AND PROGRAMMES

Further detailed information on the specific strategies, policies and plans relating to this group of activities can be found from the following sources:

- Civil Defence Emergency Management Act 2002
- National Civil Defence Emergency Management Plan 2005
- Taranaki Civil Defence Emergency Management Group Plan 2009 and subsequent updates
- Taranaki Civil Defence Emergency Management Annual Business Plans
- Soil Conservation and Rivers Control Act 1941
- Resource Management Act 1991
- Land Drainage Act 1908
- Waitara River Flood Control Protection Scheme
- Lower Waiwhakaiho River Flood Control Protection Scheme.

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## ACTIVITIES – WHAT WE PLAN TO DO

Years 2009/2010 to 2018/2019 unless otherwise noted

### 1. CIVIL DEFENCE EMERGENCY MANAGEMENT

- Prepare, implement, monitor and report upon the *Taranaki Civil Defence Emergency Management Annual Business Plan*
- Implement, monitor and report upon the *Civil Defence Emergency Management Public Education Plan for Taranaki*
- Implement, monitor and report upon the *Civil Defence Emergency Management Group Plan for Taranaki*
- Review the *Civil Defence Emergency Management Group Plan for Taranaki 2004* in preparation for next Plan.
- Prepare and adopt a new plan in 2009 and 2014, in accordance with CDEM Act and consistent with MCDEM guidelines.

### 2. FLOOD MANAGEMENT AND GENERAL RIVER CONTROL

- Effectively monitor rainfall and river levels and issue timely flood warnings. Maintain continuous monitoring systems (100% functional) and issue timely warnings for all cases, where necessary, in accordance with the Flood Event Standard Operating Procedure (approximately 35 warnings per annum)
- Undertake minor, emergency river and flood control works when necessary
- Respond to 100% of requests for drainage, river and flood control advice and assistance within ten working days
- Facilitate river control projects for the environmental enhancement of the region's waterways.

### 3. RIVER CONTROL SCHEMES

- Maintain the Waitara and Waiwhakaiho flood control schemes in accordance with asset management plan programmes
- Complete investigations into increasing flood protection on the Waiwhakaiho River flood control scheme from 2% annual exceedance probability (AEP to 1% AEP 2009/2010) and subject to asset management plan agreement, implement the necessary works programme (2009/2010 to 2012/2013)
- Undertake approximately 6kms of channel clearing work each year in the Waitotara catchment
- Manage other minor river schemes to standards as agreed with scheme participants.



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## SPECIFIC GROUP ASSET INFORMATION

River control and flood protection activities utilise the flood control assets on the Waitara and Waiwhakaiho rivers. These assets are defined as significant in the Council's *Significance Policy*. Asset management plans have been prepared for these assets.

The asset management plans' objectives are to manage the flood control assets of the Lower Waitara and Waiwhakaiho rivers, to provide an appropriate standard of flood protection for persons and property situated adjacent to the rivers. This will be achieved while maintaining, and where possible, enhancing the environmental and recreational value of the river and adjoining areas.

The levels of service required from the scheme assets are:

- to maintain the flood channel and scheme assets to provide security from flooding and flood damage up to the level of a 2% Annual Exceedence Probability for the Waitara township and residents
- to maintain the stopbank and gabion basket walls to provide security from flooding up to a level of 2% Annual Exceedence Probability (presently under review) for the Waiwhakaiho River industrial and business areas
- to continually appraise and improve the river management techniques used to maintain or enhance the overall performance of the scheme assets
- to maintain a defined river channel free from obstructions and vegetation
- to recognise the fishery and wildlife values of the river environment and maintain fish and wildlife habitats wherever possible within the scheme while achieving the management plan objectives of the scheme
- to recognise the importance of the rivers for recreational use and

extend or enhance recreational opportunities in conjunction with the operation of the scheme when and where possible

- to ensure the scheme expenditure remains within budget except for specific Council approved contingencies
- to undertake a comprehensive review of the scheme at least every five years
- to satisfy legislative requirements.

The Waitara River flood control assets are provided and maintained to meet the level of service identified above. At this stage there are no plans to increase the levels of service or to expand the coverage of the flood control assets.

The 2008 asset management plan for the Waiwhakaiho River flood control scheme proposes to increase the level of service from a 2% annual exceedence probability (AEP) to a 1%AEP, subject to further investigations and final decisions. This increase in the level of service is forecast to cost \$1.5m spread over four years (2009/2010 to 2012/2013). The capital expenditure will be funded by an internal loan to be repaid over 30 years which approximately matches the minimum expected life of the assets. Consistent with the Council's *Revenue and Financing Policy*, the loan repayments will be financed by the targeted rate over the New Plymouth and North Taranaki constituencies.

The infrastructure assets are maintained to the identified service levels. All maintenance budgets are included in the operational expenses of the Council. New capital expenditure programmes and replacement capital expenditure programmes are included in the capital expenditure budgets (refer to the *Explanatory Notes*). Further detail on the maintenance and capital programmes in relation to these infrastructure assets may be obtained by reference to the asset management plans.



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## INDICATIVE COSTS AND SOURCES OF FUNDS

2008/2009		2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Estimate \$		Estimate \$	Indicative \$	Indicative \$	Forecast \$	Forecast \$	Forecast \$	Forecast \$	Forecast \$	Forecast \$	Forecast \$
<b>Expenditure</b>											
537,020	Civil defence emergency management	544,393	558,870	581,643	602,429	592,974	608,367	645,929	654,823	674,613	692,089
244,024	Flood management & general river control	252,486	259,259	265,196	270,799	276,303	283,018	288,696	295,940	304,419	311,453
318,364	River control schemes	374,367	380,253	345,079	339,775	344,360	349,672	354,509	360,171	366,581	372,326
<b>1,099,409</b>	<b>Total expenditure</b>	<b>1,171,246</b>	<b>1,198,382</b>	<b>1,191,917</b>	<b>1,213,003</b>	<b>1,213,637</b>	<b>1,241,056</b>	<b>1,289,134</b>	<b>1,310,934</b>	<b>1,345,613</b>	<b>1,375,868</b>
<b>Income</b>											
280,282	General rates	256,893	263,058	257,785	256,516	260,599	270,178	290,296	296,646	307,247	315,855
308,572	Targeted rates	356,255	401,794	405,906	420,934	426,468	432,594	438,689	445,597	452,944	460,303
277,490	Direct charges	321,920	329,435	340,821	351,214	346,487	354,184	372,964	377,412	387,306	396,045
27,000	Government grants	30,000	0	0	0	0	0	0	0	0	0
206,064	Investment funds	206,178	204,094	187,405	184,339	180,082	184,101	187,184	191,279	198,115	203,665
<b>1,099,409</b>	<b>Total income</b>	<b>1,171,246</b>	<b>1,198,382</b>	<b>1,191,917</b>	<b>1,213,003</b>	<b>1,213,637</b>	<b>1,241,056</b>	<b>1,289,134</b>	<b>1,310,934</b>	<b>1,345,613</b>	<b>1,375,868</b>
<b>0</b>	<b>Operating surplus/(deficit)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Funded by:</b>											
0	Transfer from reserves	251,330	500,000	500,000	250,000	0	0	0	0	0	0
0	Transfer to reserves	(2,895)	(8,871)	(15,237)	(19,122)	(20,364)	(21,688)	(23,098)	(24,599)	(26,198)	(27,901)
<b>0</b>	<b>Total funding</b>	<b>248,435</b>	<b>491,129</b>	<b>484,763</b>	<b>230,878</b>	<b>(20,364)</b>	<b>(21,688)</b>	<b>(23,098)</b>	<b>(24,599)</b>	<b>(26,198)</b>	<b>(27,901)</b>
<b>Capital expenditure</b>											
0	Land	0	0	0	0	0	0	0	0	0	0
0	Buildings	0	0	0	0	0	0	0	0	0	0
0	Motor vehicles	64,000	28,000	0	0	64,000	28,000	0	0	64,000	28,000
43,174	Plant and equipment	39,300	25,500	25,540	26,700	7,500	25,200	4,000	4,000	4,000	7,500
0	Office furniture	0	0	0	0	0	0	0	0	0	0
0	Computer equipment	0	0	0	0	0	0	0	0	0	0
0	Flood and river control assets	250,000	500,000	500,000	250,000	0	0	0	0	0	0
0	Computer software	0	0	0	0	0	0	0	0	0	0
<b>43,174</b>	<b>Total capital expenditure</b>	<b>353,300</b>	<b>553,500</b>	<b>525,540</b>	<b>276,700</b>	<b>71,500</b>	<b>53,200</b>	<b>4,000</b>	<b>4,000</b>	<b>68,000</b>	<b>35,500</b>
<b>Funded by:</b>											
43,174	Transfer from retained earnings	353,300	553,500	525,540	276,700	71,500	53,200	4,000	4,000	68,000	35,500
<b>43,174</b>	<b>Total funding</b>	<b>353,300</b>	<b>553,500</b>	<b>525,540</b>	<b>276,700</b>	<b>71,500</b>	<b>53,200</b>	<b>4,000</b>	<b>4,000</b>	<b>68,000</b>	<b>35,500</b>