

Hazardous Times

Hazard News and Views from the Auckland Regional Council



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The fifteenth issue of Hazardous Times focuses on initiatives to reduce the effects of climate change in the Auckland region, the development of guidelines to mitigate coastal erosion at Clarks Beach and action taken to investigate Onehunga's worst known contaminated land. It also updates the activities of the Auckland Engineering Lifelines Group and the Civil Defence Emergency Management Group.

Climate Change: Reducing the Effects in the Auckland Region

Climate change – it's something we often talk about, but what does it really mean and what impact does it have on how and where we live?

Global climate has been changing over the past 50 years in response to increases in greenhouse gas concentrations, aerosols and other air pollutants. Some indicators of global climate change include an increase in global air temperatures, changes to the dates when lakes and rivers freeze or melt, the ongoing reduction of glaciers, and changes to growing seasons. However, while changes to global air temperatures can occur naturally, human activity has meant that such changes have occurred much more rapidly.

So what does climate change look like? The Auckland region, and New Zealand as a whole, is already seeing some of the results of climate change.

For example, some regions, such as Northland, have experienced increased flooding, while other regions in the South Island are experiencing droughts on a more regular basis.

While there are some things that individuals can do to help reduce climate change, local authorities have a significant role to play in managing the overall impact of global climate change at a local level.

As a local authority, the Auckland Regional Council's role is to protect the region's air, soil and water resources, by ensuring their sustainable use as the region continues to develop and grow. The underlying role of the ARC regarding climate change is implicitly determined by the Local Government Act and the Resource Management Act.

Some of the things the ARC is doing to mitigate climate change include:

- Monitoring all pollutants around the Auckland region – air, land and water,
- Implementing the 'Big Clean Up' campaign to encourage individuals to take action, such as recycling, using public transport and regularly tuning vehicles, to help the Auckland environment,
- Monitoring and investigation of soil quality and land use,
- Working with the public and businesses community to educate and encourage best management practices, and
- Investigating the potential effects of climate change on the Auckland region.

For more information about the ARC's role in managing the effects of climate change, please contact Jane Olsen, ARC by telephone: (09) 366 2000 x8449; or email: jane.olsen@arc.govt.nz

Clarks Beach Coastal Erosion Management Guidelines

This article is a brief overview of the Clarks Beach Coastal Erosion Management Guidelines, which have been produced as a joint initiative between the ARC, Franklin District Council and the Clarks Beach & Waiau Pa Residents & Ratepayers Association.

What are the guidelines?

The guidelines were produced for and in partnership with the community and Councils because many property owners at Clarks Beach and Waiau Beach are concerned about coastal erosion and consider it a significant hazard requiring structural coastal erosion management methods to protect remaining esplanade reserves and property.

A number of coastal 'protection' structures have been unlawfully built along the coastline. The majority of these have been inadequately designed and poorly maintained, and have been built in an ad hoc manner with little regard to coastal processes, the causes of erosion, or the effects of the structures on

the recreational value of the beach, visual amenity or public access.

How will the guidelines be used?

The guidelines are an example of the practical implementation of the ARC Coastal Erosion Management Manual. Rates of shoreline change at Clarks Beach and Waiau Beach have been determined from analysis of aerial photographs, historical information and anecdotal information from the community.

From the analysis undertaken it appears that the coastline at the western end of Clarks Beach is largely stable due to modification by seawalls, and in some areas the shoreline has actually prograded (moved seaward) due to human activity. It appears that the eastern end of Clarks Beach (Knights Beach Cliffs and Bradleys Beach) is eroding in the order of 0.1m to 0.2m per year.

Information has been distributed to enable property owners to choose the most appropriate method for managing coastal erosion 'where it is identified to

be a hazard' at Clarks Beach and Waiau Beach.

Why were the guidelines produced?

The guidelines will help to ensure that structures for coastal erosion management are effectively designed and consistent along the coastline, and minimise impacts on public access, and the visual and recreational amenity of the beach. Standard design plans have been provided along with information to assist applicants through the coastal permit and building permit application processes. The time and costs associated with gaining the necessary permits will be reduced by following the guidelines.

It is anticipated that the guidelines will assist Councils and the community to plan and implement the gradual removal, repair or replacement of the less appropriate, unlawful structures. Unlawful structures (including rubble, power poles and garden rubbish), which do not fit the potential methods for managing coastal erosion identified in the guidelines, will be required to be removed from the beach. This will contribute to the long-term vision for the Clarks Beach coastline by ensuring that it is consistently managed and will enhance the visual and recreational amenity of the beach.

For further information please contact Jo Morriss, ARC by telephone: (09) 366 2000 x8401; or email: jo.morriss@arc.govt.nz



Evidence of coastal erosion and damage to unlawfully built coastal protection measures at Clarks Beach on 2 October 2003 following a storm on Saturday 27 September 2003.



NEWS IN BRIEF

Earthquake Summary

During January 2004, two small earthquakes were recorded in the Auckland region. The first was a magnitude 1.8 event, which occurred 20km northeast of Pukekohe at 2:26pm on Monday 19 January. The second event measured magnitude 1.7 (12km deep) and occurred 20km south of Auckland at 2:20pm on Friday 30 January. Both of these earthquakes were too small to be felt and were not associated with volcanic activity. They are believed to have a tectonic origin.

AELG Update



The Auckland Engineering Lifelines Group (AELG) has issued the draft report of the Priority Utility Sites Project. The project has been a huge undertaking and required input from a large number of people and organisations. The feedback indicates it will greatly enhance emergency management planning in the Auckland region.

The project has ensured that each lifeline utility understands the important sites in the Auckland region that require restoration of their services following a disaster.

The AELG has also been working over the past six months to review its relationship with the Auckland Civil Defence Emergency Management Group (CDEM), and is working with them to take on the role as the lifeline utility sector coordinator for CDEM activities, though they will not take on an operational role.

For further information about AELG activities please see their website: www.aelg.org.nz; or contact the project manager Lisa Roberts by email: lisa.roberts@maunsell.com or by telephone: (09) 379 1261.

Action on Contaminated Onehunga Land

The ARC has received a grant of \$46,200 from the Ministry for the Environment's (MfE) Contaminated Sites Fund to investigate Onehunga's worst known contaminated land.

The ARC will contribute to the other half of the cost of the work, which involves up to four rounds of sampling groundwater to establish contamination levels, from this summer through to winter 2004, and further development of possible options for remediation of the site.

The contamination comes from a former fertiliser site that operated there in the past. In World War II, large quantities of phosphate fertilisers were stored in the open on the site, due to concerns about shipping it through the Pacific during the war. In addition, copper sulphate and other fertilisers were manufactured and

stored on the site. Over the years, rainwater washed copper sulphate and other chemicals through the basalt rock and into the groundwater beneath the area.

Previous investigations, costing the ARC about \$100,000, established that the area is heavily contaminated with fluoride, sulphate and phosphorus. The contamination historically extended in a plume in the groundwater from Henderson Place, Onehunga south and west to the Manukau Harbour. A stream by a walkway running alongside Miami Parade, Manukau Harbour used to periodically have a visible bright, aqua-green colour from the presence of copper sulphate.

Problems arising from high levels of contaminants in groundwater include harm to aquatic life and limits to the use of the water for supply purposes. The ground

water can also be acidic and 'eats' through concrete storm water pipes causing leaks.

There is no evidence of any effects on the Onehunga drinking water supply, as the plume is outside the collection zone for this important resource.

The ARC and Auckland City Council already have management steps in place to safeguard current businesses above the contaminated zone, and these investigations will also help to confirm that these management steps are working. Due to the historical nature of the contamination, who would pay for remediation and how or when it would occur is yet to be determined.

For further information please contact Mary Manastyrski, ARC by telephone: (09) 366 200 x8460; or email: mary.manastyrski@arc.govt.nz



CDEM Group Update

Overview

During November and December 2003, extensive consultation on the draft Auckland CDEM Group Plan was undertaken with key organisations, and a number of tailored briefing sessions were held with key organisations, including defence forces, lifeline utilities, technical associations, and government and social departments.

The briefing sessions were held in order to:

- update organisations on the progress of the Plan,
- discuss any implications that the Plan may have for their organisation, and
- discuss whether the draft Plan met their expectations, and to identify any gaps, prior to the Plan being publicly notified in March 2004.

A further general briefing session was also held in February 2004 for organisations not able to attend the earlier sessions.

The briefing sessions provided some great feedback and input, which has been used in the development of the Plan, and were seen by the organisations involved as a

first step in building stronger long-term relationships between the many organisations involved with emergency management.

Successful Hui held:

Following on from the success of the tailored briefing sessions, a Hui on the draft Auckland CDEM Group Plan was held at the Orakei Marae on 10 December 2003, with a number of representatives from Maraes and Mana Whenua Groups across the Auckland region participating.

The purpose of the Hui was to:

- raise awareness about CDEM issues
- ask Hui participants whether CDEM issues were important and whether they wanted to be involved and how they wanted to be involved, and
- provide an overview of the Plan.

Participants at the Hui strongly indicated that CDEM issues were important to them and CDEM was something that they wanted to get more involved with.

A number of CDEM issues raised at the Hui are now being worked through with the CDEM Group and the Co-ordinating Executive Group.

Key Plan dates:

Mid March 2004	Draft Plan publicly notified and public submissions called for
Late April 2004	Public submissions close
June 2004	Hearings held for public submissions on the Plan
Early August 2004	CDEM Group Hearings Committee meet to approve and finalise the Plan
Late August 2004	Final Plan printed and distributed

All key organisations are encouraged to provide input and feedback, both now and during the public submissions phase.

For the most up to date version of the draft Plan and for more information about the CDEM Group please see the CDEM Group website:

www.auckland.cdemg.org.nz or contact by email: info@cdemg.org.nz Alternatively, please contact the Civil Defence Emergency Management Group Office by telephone: (09) 366 2000 x8043.

Hazardous Times Resource List Reports

COASTAL HAZARDS	INFRASTRUCTURE FAILURE/AUCKLAND ENGINEERING LIFELINES GROUP PUBLICATIONS
<input type="checkbox"/> Auckland Regional Council. Coastal Hazard Strategy and Coastal Erosion Management Manual. Auckland Regional Council Technical Publication No.130, July 2000. (\$129.00 Hardcopy/\$49.00 CD Rom)	<input type="checkbox"/> Auckland Regional Council. Auckland Engineering Lifelines Group-Lifelines Co-ordination (Response) Project AELG-2. Auckland Regional Council Technical Publication No.173, May 2002. (Free).
EARTHQUAKE	<input type="checkbox"/> Auckland Regional Council. Auckland Engineering Lifelines Group Priority Emergency Routes Auckland Region. Auckland Regional Council Technical Publication No.145, November 2001. (\$25.00)
<input type="checkbox"/> Alloway, B., Lyall, J. & Kozuch, M. Mapping and Characterisation of the Drury Fault. Auckland Regional Council Technical Publication No.96, September 1998. (includes A1 map of fault geology) (\$25.00)	<input type="checkbox"/> Auckland Regional Council. Auckland Engineering Lifelines Group Volcanic Ash Review, Part 1: Impact on lifeline services and collection and disposal issues. Auckland Regional Council Technical Publication No.144, May 2001. (\$25.00)
<input type="checkbox"/> Stephenson, W., Baguley, D. & Kozuch, M. Assessment for Amplification of Earthquake Shaking by Soft Soils in Central Auckland. Auckland Regional Council Technical Publication No.94, July 1998. (includes A1 map of site locations) (\$25.00)	<input type="checkbox"/> Auckland Regional Council. Auckland Engineering Lifelines Project, Final Report - Stage 1. Auckland Regional Council Technical Publication No.112, November 1999. (Includes CD-ROM) (\$100.00)
<input type="checkbox"/> Stephenson, W., Townsend, T. & Hull, A. Assessment for Amplification of Earthquake Shaking by Soft Soils in South Auckland. Auckland Regional Council Technical Publication No.87, August 1997. (Free)	<input type="checkbox"/> Auckland Regional Council. Part 3: Risk Management: Looking Forward from the Auckland Power Crisis. Auckland Regional Council Technical Publication No.100, January 1999. (\$25.00)
<input type="checkbox"/> Fellows, D.L. Preliminary Paleoseismic Assessment of the Wairoa North Fault. Auckland Regional Council Technical Publication No.75, September 1996. (includes A1 map of fault 1:25,000) (\$40.00)	<input type="checkbox"/> Auckland Regional Council. Auckland Engineering Lifelines Project, Stage 1 Report. Auckland Regional Council, Technical Publication No.116, July 1997. (\$90.00 Hazard and Network information-project participants only) (\$80.00 Hazard information only-non-project participants)
<input type="checkbox"/> Hull, A.G., Mansergh, G.D., Townsend, T.D. & Stagpoole, V. Earthquake Hazards in the Auckland Region. Auckland Regional Council Technical Publication No.57, April 1995. (includes two A3 maps: fault hazard and preliminary ground shaking hazard) (\$25.00)	AUCKLAND CDEM GROUP PUBLICATIONS
EDUCATION	<input type="checkbox"/> Auckland Region Civil Defence Emergency Management Group. Extent of Civil Defence Emergency Management Planning in the Auckland Region. Auckland Regional Council Technical Publication No.180, July 2002. (\$25.00)
<input type="checkbox"/> Ronan, K.R. & Johnston, D.M. Children's Risk Perceptions and Preparedness: A Hazards Education Survey. Auckland City Council and Auckland Regional Council, Auckland, March 1997. (Available on loan from ACC Library)	<input type="checkbox"/> Auckland Region Civil Defence Emergency Management Group. Management Mechanisms used by Emergency Management Agencies for Natural and Technological Hazards in the Auckland Region. Auckland Regional Council Technical Publication No.181, May 2002. (Free)
FLOODING	RISK MANAGEMENT
<input type="checkbox"/> Auckland Regional Council. Dam Safety and Surveillance Guidelines for Safe Practice. Auckland Regional Council Technical Publication No.109, June 2000. (\$30.00)	<input type="checkbox"/> Local Authority Hazard Liaison Group. Hazard Guidelines. Auckland Regional Council Technical Publication No.106, July 2003. (\$75.00)
<input type="checkbox"/> Auckland Regional Council. Low Impact Design Manual for the Auckland Region. Auckland Regional Council Technical Publication No.124, April 2000. (\$20.00)	<input type="checkbox"/> Auckland Regional Council. Civil Defence Disabilities Planning Guide. Auckland Regional Council Technical Publication No.98, September 1998. (Free)
<input type="checkbox"/> Auckland Regional Council. Guidelines for Stormwater Modelling in the Auckland Region. Auckland Regional Council Technical Publication No.108, April 1999. (\$25.00)	<input type="checkbox"/> Daly, M. & Hull, A. Natural Hazards Management Workshop 95: Workshop Summaries. Auckland Regional Council, Technical Publication No.70, May 1996. (Workshop Proceedings are available from the Institute of Geological & Nuclear Sciences, PO Box 30-368, Lower Hutt) (Free)
LAND INSTABILITY	HAZARD FACTS
<input type="checkbox"/> Williams, A. Slope Instability Hazards in the Auckland Region: A Preliminary Assessment. Auckland Regional Council Technical Publication No.71, June 1996. (includes four A3 maps 1:500,000: soil/rock mass distribution, slope grade distribution, areas of slope instability, instability hazard) (\$35.00)	<p>Auckland Regional Council's Hazard Facts are a series of free factsheets written to provide the public with hazard information.</p> <p>H01 Auckland's Volcanic Field H02 How Do Auckland's Volcanoes Form? H03 Rangitoto: Auckland's Youngest Volcano H04 Auckland's Volcanic Hazards H05 Auckland Volcano Seismic Monitoring Network H06 Measuring Earthquakes H07 Earthquakes in Auckland H08 Earthquake Hazards H09 What is a Tsunami? H10 Volcanic Eruptions in Auckland – How to Survive H11 Hazards in Auckland</p> <p>Hazard Facts are available from the ARC by telephone: (09) 366 2000 or 0800 80 60 40; or online: www.arc.govt.nz</p>
METEOROLOGICAL EXTREMES	
<input type="checkbox"/> Salinger, M.J., Porteous, A.S., Reid, S., Thompson, C. & Snelder, T. Meteorological Hazards in the Auckland Region: A Preliminary Assessment. Auckland Regional Council Technical Publication No.76, November 1996. (Free)	
<input type="checkbox"/> Hessel, J.W.D. Hazards in the Auckland Region due to Meteorological Extremes: An Initial Assessment. Auckland Regional Council Working Report No.68, January 1996. (Free)	
TSUNAMI	
<input type="checkbox"/> de Lange, W.P. & Hull, A. G. Tsunami Hazard for the Auckland Region. Auckland Regional Council Technical Publication No.50, November 1994. (Free)	
VOLCANIC	
<input type="checkbox"/> Auckland Regional Council. Contingency Plan for the Auckland Volcanic Field. Auckland Regional Council Technical Publication No.165, January 2002. (\$45.00)	
<input type="checkbox"/> Paton, D. Auckland Volcanic Risk Project - Stage 2. Auckland Regional Council Technical Publication No.126, November 1999. (\$25.00)	
<input type="checkbox"/> Johnston, D.M., Nairn, I.A., Thordarson, T. & Daly, M. Volcanic Impact Assessment for the Auckland Volcanic Field. Auckland Regional Council Technical Publication No.79, April 1997. (\$35.00)	

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