



# LESSONS FROM MOTHER NATURE

BY EMMA GOODWIN

No one knew when the rain first started to fall in February 2004 that within days four rivers would breach stopbanks adding to the havoc of destroyed homes, farmland and stock, that culminated in a state of emergency in the central North Island.

**F**or the staff of Horizons Regional Council the memories of the days and weeks that followed the storm are still vivid.

Work is set to continue for years to repair the damage caused in just a few days and to help prevent something similar happening again.

The effects of the 2004 flood will be felt in the region for years, however the community is slowly getting back to normal and have looked at recent events in Bay of Plenty with empathy.

Much criticism about its handling of the disaster

was thrown at Horizons Regional Council in the aftermath of the flood, estimated to be an event that could occur once every 100 years. This figure has since been changed to a two percent chance every year.

Numbers like that mean that everyone has to be on their game and in April 2004 Horizons brought in an independent review team to assess its performance and make recommendations on what it could have done better during the devastating storm.

But this was not just an internal investigation.

Emergency services, the region's territorial

local authorities, Defence, Ministry of Civil Defence and Emergency Management (CDEM) and several ratepayers severely affected by the flood were also consulted.

The review was completed in June 2004 and presented to Council the following month.

It was felt that Horizons had responded in a reasonable manner and though there were a few areas of concern, many of these had already been identified and acted on by Horizons staff by the time the review findings were made public.

LEFT: Flooding in Manawatu; Raurnai Reserve bridge in Pohangina Valley.

In fact many of the recommendations were already being instigated before the flood and the flood itself had interrupted progress.

Horizons was the only regional council in the country at the time that had an active Emergency Management Group and Emergency Management Procedure as part of the new legislation in the Civil Defence and Emergency Management Act 2002.

"Many staff members completed their emergency management training in the field so to speak when the flood hit. Several had not completed the manual but that did not hinder them in any way," says Horizons emergency management manager Mark Harrison.

Mr Harrison says he was amazed at how well everyone pulled together and the can do attitude that came to the fore.

"Throw people together in a windowless room and you see their true colours come out."

Having an emergency procedure manual already in place meant that the ground rules were laid meaning coping with a situation that evolved hour by hour was easier than starting from scratch.

Mr Harrison was pleased with the way Horizons represented itself in the review and that nothing drastic needed to be changed.

"Nothing systematic needed addressing, just some fine tuning of the plan already in place.

One thing Mr Harrison is concerned about however is how prepared the public is for another event of that magnitude.

"It's not a question of if it will happen again but rather when. And the important question is whether people have changed their practices."

"People still get nervous after a couple of days of heavy rain, so we all have to ask ourselves whether we are ready this time?"

Having an emergency kit of water, batteries, radio, food, plastic bags and clothing are all part of a well-equipped family who would be able to cope for a few days if they were cut off from others.

Phone trees that were in place before the flood are now stronger than before with more people attached to them. However numbers must remain updated for the lines of communication to work.

Horizons has upgraded many of its recording sites that were washed out and made them

stronger, more resistant to flood waters and there are more of them.

"Our telemetry sites are giving us updated information all the time and we have instigated other technical programmes such as flood plain mapping and computer water flow modeling that gives us flood prediction capacity which will be invaluable for flood protection work."

Information gathering between districts has now been formatted so that all territorial authorities in the Horizons region give and receive information in the same manner.

Possibly one of the most obvious signs that Horizons is in control of any situation is the fact that it goes about its business quickly and quietly.

"We are working hard to ensure everything is under control at all times. The public often is not aware of emergency operations because they are contained quickly and efficiently."

Councils have been invited to nominate staff

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members to be trained as Public Information Managers through courses involving the Ministry of Civil Defence and Emergency Management.

This is to ensure Councils have at least one person who has a working understanding of the Civil Defence Emergency Management Act 2002 and can control all the aspects of efficient and timely information released to the public, media and other interested parties.

In the future it is intended that a strong working relationship exists between all Councils in the field of Public Information Management so PIM's can interact with each other and step in to assist other Council's emergency situations seamlessly.

Horizons is also developing an information policy in response to media enquiries during an emergency situation including a balance between the needs of the media and the needs of the general public.

Releasing information to the public is a delicate balance of 'need to know' and 'too much information'

Horizons' Emergency Operations Centre has been operational three times since the 2004 floods, with the majority of Horizons ratepayers being completely oblivious to it.

However responding to an emergency situation is only half of the issue. Work goes on long after the media have left in an organised recovery programme.

Mr Harrison says this process has no time limit and established processes need to be implemented to ensure everyone in a region affected by a disaster get treated the same.

"We had some incidences where people on one side of the river were getting more from their local authority than their neighbors on the other side which created some issues."

"I would like to see some level playing field in that regard so that standards are the same throughout the region."

These types of procedures would dispel any

nasty surprises or people 'ripping off' the system says Mr Harrison.

On the other side of the coin Mr Harrison says many people who were entitled to some help did not ask for it as they thought the process would be too invasive into their personal life and pride was a big factor.

Mr Harrison is the process of liaising with other organisations in an effort to standardise procedures so that every person entitled to help feels they can ask when they need it.

Careful not to portray a feeling of being ungrateful Mr Harrison says the huge warehouse stuffed full of clothing and household goods from around the country was possibly not the most effective way of giving people the help they needed.

Much of the stock sold in a huge garage sale because so much was donated and was stood idle in the warehouse costing thousands of dollars in storage and management costs.

"We took a lot of flak for that as it was felt the big

sale took money away from the second hand shops in the area, however it did add a substantial amount of money to the relief fund."

What was left over after the sale had to be disposed of at landfills which did not sit comfortably with the environmentally aware status of Horizons.

Repairing the damage caused last year has been a long process, which is by no means over.

Horizons river operations team has been inundated with work to repair and raise stopbanks and had its own review.

The report concluded that the design standards for the Manawatu River were appropriate but that a more conservative approach needed to be taken for the Oroua and Rangitikei schemes.

The design flows that Horizons had been working from in the Manawatu and Rangitikei Rivers were accurate but were exceeded in the Oroua River, meaning several breaches of stopbanks occurred.

It was also found that bridges could have a large influence on failures and future design considerations should be addressed in those areas.

A programme of works has since been developed and consultation is currently underway with scheme ratepayers and other stakeholders to establish just how much flood protection the community wants.

It is proposed the region's Oroua River needs almost all of its 50km of stopbanks raised up to two metres and 17km of new stopbanks to be built.

Horizons has taken on board its communities concerns and is proposing several options of flood protection in various river schemes in the region. The organisation is aware that its community may not always seek the cheaper option if it means less protection in the long term.

The operations team and the emergency management team are in close contact during any flood event with operations team members being present in areas where overtopping of stopbanks could occur to give regular status reports that would enable information to get to landowners quickly.

However Horizons is well aware that it is not just flood that poses a risk to the region.

To help it ascertain just where hazards may lay, Horizons enlisted the help of NIWA that worked alongside some of Horizons' staff to decipher data and predictions that would help Horizons focus on areas of concern.

The impacts of meteorological hazards that

included intense rainfall and floods, drought, landslides and erosion and the potential impacts of climate change on the Horizons region were identified.

A priority list of future work needed for meteorological hazards in the Horizons region was drawn up. Flood forecasting and analysis of small catchments and urban flooding top the list.

Mr Harrison believes this in-depth document offers a wealth of information that Horizons can use to begin initiatives to counteract the potential impact of hazards in its region.

Horizons have actively pursued information for several years that will help it in future decisions regarding meteorological hazards.

Such information has enabled Horizons to predict water flow and volume in regards to a certain amount of flood plain mapping, which assists City and District Councils in planning decisions regarding industrial development and residential subdivisions.

"Horizons is becoming increasingly concerned about the ongoing pressure to develop in flood plains," says Ged Shirley, Horizons group manager of regional services.

"If anything, we see the need to be more vigilant about avoiding development on flood plains and learn from the lessons of February 2004."

Horizons is embarking on a long term project to map the entire region including coastline through LIDAR and flood model certain areas to give in

depth information on flood plains and how the topographical structure of its region will affect water flows in other flood events such as 1:10, 1:25, 1:100 and 1:200 year events.

This information will allow Horizons to enter into MOU's with territorial authorities and stakeholders on the use of land and recommended practices.

As a regional council Horizons has a statutory responsibility to provide this information to City and District Councils.

There is mounting pressure from developers to build more houses and businesses for the region's increasing population in areas that have been designated as flood plains and spillways.

The climatic and geographical information received from NIWA proves that building in flood channels would be classed as an 'at risk' development, would exacerbate problems for surrounding areas in the event of a flood and put unnecessary strain on emergency services and civil defence teams says Horizons.

"From our point of view less 'at risk' development means reduced need for protection measures, less costs, less impact on emergency services etcetera," says Mr Shirley.

Learning lessons from past events and taking on board information from other agencies and stakeholders in its region enables Horizons to update its resources, improve training and offer its ratepayers the best quality of governance according to its research. ❖



RIGHT: Aerial photo of the floods two weeks on, from above bridge on SH 1.