



WAIRARAPA FLOOD WARNING NEWSLETTER

MAY 2005

After two major flood events in 2004, and a number of changes to the flood warning system since our last newsletter, we thought it was a good time to provide an update for all the landowners who receive flood warnings from Greater Wellington.

Included with this newsletter is a personalised letter with the current river warning list you are on. Could you please check that this information is correct, confirm on the letter and return it to us in the enclosed envelope. Thank you.



The Ponatahi Bridge on 16 February 2004.

Where to get information during flood events

Hydroline

You are able to monitor the Ruamahanga River system and major tributaries, rainfall as well as lake levels at any time by phoning Greater Wellington's Hydroline, which has been in service since May 2000.

During flood events, Hydroline water level data is updated every 30 minutes, while rainfall data is generally updated hourly. The data is updated every three to six hours in non-flood conditions.

Calls to Hydroline currently cost 12 cents a minute (Telecom charge). We have enclosed a brochure about Hydroline with this newsletter for your information.

Greater Wellington website

The Greater Wellington website (www.gw.govt.nz) has information on river levels, rainfall, lake levels and wind speed. You can find this information in

the Environmental Monitoring section - www.gw.govt.nz/monitoring. (River information is updated regularly at similar times to Hydroline.)

Wairarapa Division office

You can contact the Wairarapa Division office on 06 378 2484. During working hours (8am - 5pm weekdays), the receptionist will put you through to the flood warning duty officer. If you call after hours, you will get the option to press 1, which diverts you immediately to the duty officer's mobile phone.

Metservice

You can find up to date weather forecasts and heavy rain warnings on the Metservice website - www.metservice.co.nz. You can also use the MetPhone service. To use Metphone you dial 0900 999 followed by your area code (0900 999 06). MetPhone is an 0900 service provided by Meteorological Service of New Zealand Limited and calls currently (March 2005) cost \$1.30 per minute including GST.

Media

Television and radio both provide weather reports. Sky TV's digital service includes a weather channel.

Issuing flood warnings

Greater Wellington issues flood warnings through group networks, using distributors or deputy distributors who forward the flood warning message to others. There are a few individuals not in a group, and they are contacted directly by a Greater Wellington staff member.

Greater Wellington appreciates the contribution of the distributors as an important part of the flood warning system.

Answer phones

Answer phones create problems during flood events as they prevent warnings being relayed to distributors and can cause significant delays in issuing warnings. Leaving messages creates uncertainty as to whether information is getting to people on time.

Please ensure your answer phones are deactivated when heavy rain and potential flooding is forecast.

Flood event staffing

Greater Wellington ensures that staff based at the Masterton office are available to manage significant flood events, and when certain trigger levels are reached, to provide the best possible response to the event. If a significant event occurs outside office hours, staff are called in. This normally happens about two - three times a year.

Our responsibility

While every care is taken, Greater Wellington's flood warning service is advisory only and no responsibility is accepted for flood losses.

Flood summary 2004

2004 was, by anyone's standards, a wet year. The two worst events were the floods in February and August. Here is some information about these events.



Cleaning debris from the Waihenga Bridge. February 2004 flood.

15 - 16 February 2004

The storm of 15 - 16 February 2004 caused widespread flooding in the Wairarapa and was the biggest flood event in recent years.

The storm began on the evening of Sunday 15 February with a long, sustained period of rain which set in from the south. The rain lasted for nearly 18 hours, finally easing off around midday Monday 16 February. The heaviest rainfall was between 3 - 4am on Monday morning.

The heaviest falls were around the ranges, but there were also significant falls in the lower hill country and valley areas.

A wetter than normal summer and a smaller flood only four days previously on the 11-12 February, meant the rainfall during the storm produced more runoff than it would have under drier conditions.

There were high river flows in nearly all the rivers in the Wairarapa. There were record high flows in the Ruamahanga River which collected most of the runoff from the central Wairarapa valley.

Wairarapa eastern hill-country rivers reached flow peaks estimated between 20 - 30 year return periods.

What is a "return period"?

There is sometimes some confusion as to what "return period" means. People often wonder how we can have, for example, two 20 year floods in one year!

Return period actually refers to probability - a 20 year return period means there is a one in twenty chance for a flood of that size in any particular year. (It does not mean that there is only one flood of this size every 20 years.)

Return periods can change - they are revised on an ongoing basis as more data becomes available to refine the calculation.

February flood facts

- The Kopuaranga River had its highest recorded flood since records began in 1985.
- The Tauweru River (commonly known as the Taueru) had the highest flood level recorded since October 1992.
- The Huangarua River reached a flood peak of 5.2m at Hautotara Bridge. This is the highest flood peak on record since the stage recorder was installed in the late 1960s (May '81 was around 4.3m).
- The Huangarua River overtopped the Ponatahi Bridge just north of Martinborough closing the road.
- Just upstream from the Huangarua River confluence with the Ruamahanga River (downstream of the Ponatahi Bridge) the left stopbank was overtopped and scoured a hole through the bank. The flow through this breach caused extensive flooding to the area south towards SH53. The floodwaters ponded till the water escaped over SH53, closing the highway.
- The Ruamahanga River at Wardells reached a flood peak of 5.069m, which is the highest flood level on record, just above the previous high in October 1998 (5.024m). The return period on this event is estimated to be 36 years.
- The peak stage at Waihenga Bridge was 5.36m (1900m³/sec), the highest on record since the stage recorder was installed in the mid 1950s. The return period on this event is estimated to be at least 50 years. The previous high was November 1994 (5.146m, 1800m³/sec).
- All the floodways in the Lower Valley, which are designed to divert large floods, operated during this event. The scheme



Oporua floodway at Kahutara Rd. February flood, 2004.

floodways were designed back in the early 1980s for a 20 year return period flood which at that time was 1500m³/sec. This flood exceeded that flow. There was overtopping of the stopbanks at a number of locations as well as along the river channel. Apart from the breach in the Huangarua stopbank near the Ruamahanga River confluence, the floodways worked well and as expected.

- Lake Wairarapa reached a level of 11.98m, nearly 2m above its normal level of 10.0m. This was the highest it has been since the Lower Wairarapa Valley Development Scheme was built in the mid 1970s.

18 August 2004

On Tuesday, August 17 2004, a strong cold southerly from a depression off the east coast of the North Island brought steady (but not overly heavy) rain to the Wairarapa with snow to higher altitudes. By the morning of Wednesday 18th the steady rain resulted in wide-spread surface flooding in the lower lying areas of the valley and rising river levels across the Wairarapa throughout the day.

Although the rainfall was not particularly heavy, it lasted up to 48 hours in some areas, resulting in some parts of the Wairarapa reaching 8 year totals. Soils in many areas were already near saturation point before this rain which meant a greater than normal amount of the rain went into runoff or ponding. This resulted in more water in rivers than expected and wide-spread surface flooding in many low lying areas.

Although in most cases the flood levels were not as high as in February, in some areas the saturated conditions were considered to be worse. Rivers in the eastern hill country reached high flood levels. These combined with the runoff flow from saturated soils in the main valley resulting in a significant flood in the Ruamahanga River in the lower Wairarapa valley.

The Tauweru and Wainuioru Rivers reached higher flood peaks than in February, the Tauweru reaching a 24 year peak.

While the flow from the Tararua Range catchment was not significant, the flow from the lower lying tributaries of these rivers, the runoff from overflowing drainage networks in the valley, and the eastern tributaries of the Ruamahanga catchment resulted in a significant flood in the middle to lower reaches of the Ruamahanga River. The flood peak at Wardells reached 550m³/sec, a 4 year return flood, but downstream at Waihenga, with drainage from a larger part of the valley, the peak of 1600m³/sec was a 15 year return period event.

A sizeable proportion of the flood went into Lake Wairarapa, which rose to a level second only to the peak in February 2004, the highest since the mid 1970s.

Historic flood table 1990s - 2004

River site	Peak stage (mm)	Flow (m ³ /sec)	Return period	Date	Comment
Waiohine @ Gorge	5470 5059	1408 1362	20 16	17/01/1990 12/02/2004	Highest on record in recent times was 5761mm (1558m ³ /s) in Dec 1982.
Ruamahanga @ Mt Bruce	4140	352	4	20/10/1998	Highest on record in recent times was 5000mm (467m ³ /s) in December 1982.
Ruamahanga @ Wardells	5020	844	36	21/10/1998	Highest on record since records began in 1955. In February 2004, the stage reached 5.1m, but the flow was less than in 1998.
Ruamahanga @ Waihenga	5360	1900	50	16/02/2004	Highest flow since the Lower Valley Scheme stopbanks completed in the early 1980s. Floodways activated with levels 4500 – 4600mm.
Waingawa @ Gorge	3100	360	6	20/10/1998	Highest on record in recent times was 3350mm (426m ³ /s) in January 1980.
Huangarua @ Hautotara	5225	450	>50	16/02/2004	Had three very large floods in the last two years (also June 2003 and August 2004).
Tauweru @ Te Weraiti	12760	488	32	23/07/1992	One of three large floods of near magnitude between 1991 – 1992. Reached 12460 in February 2004 and 12631mm in August 2004.
Whareama @ Eastwoods	7350	NA	–	11/04/1991	1000mm water through Tinui Hotel.
Whareama @ Waiteko	15570	1020	92	11/04/1991	Significant flow overland around bridge.
Tinui @ Taipos	7320	NA	–	11/04/1991	1000mm water through Tinui Hotel.
Mangatarere @ Gorge	2405	121	17	16/02/2004	
Kopuaranga @ Palmers	4897	200	>50	16/02/2004	Highest on record since 1985.

March 2005 flood

As this newsletter was being prepared there was a flood event that led to some damage in the Wairarapa. This event was caused by an easterly storm event on 30 March with rainfall significantly higher than normal for a 24 hour period and for the month. Although the rainfall was widespread across the Wairarapa some areas received extremely high intensity localised rainfall. Statistics for the flood have not been finalised but indications are that apart from eastern and coastal areas the magnitude of the event in the main Wairarapa valley was smaller when compared to the February and August floods of 2004.

Contact/more information

If you would like any further information or have any queries about the flood warning service, please contact Lindsay Annear, Greater Wellington's Wairarapa Division, during office hours on:

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F 06 378 2146

E flood.warning@gw.govt.nz

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