

File Reference: 2.00220
Significance of Decision: Receives Only - No Decisions



Report To: Operations, Monitoring and Regulation Committee
Meeting Date: 22 February 2012
Report From: Ken Tarboton, Group Manager Environmental Hazards

1 January 2012 Flood Event

Executive Summary

The purpose of this report is to provide Council with information on the 1 January 2012 flood event. While extensive rainfall was experienced across the region, there was extreme rainfall in the Whakatāne and Waimana valleys in particular. In these areas, heavy rainfall over a relatively short period of time, and peak flows combined with a high tide causing the Whakatane River to rise to 7.485 meters at Whakatāne Valley Road. This report contains rainfall and river flow data, actions undertaken, results of those actions and emphasises areas for further improvement. The Whakatāne River spit fuse at 'The Heads' breached shortly before high tide at 1:25pm with the assistance of a digger. There were no known houses flooded, no stock losses, but multiple road closures, including a rescue where warnings were not heeded.

On a positive front, the recently completed flood damage repair works appear to have reduced significant further damage from the high river flows, although flood damage assessments are still underway. This report also indicates key issues and impacts to the flood protection schemes.

1 Recommendations

That the Operations, Monitoring and Regulation Committee under its delegated authority:

Receives the report, 1 January 2012 Flood Event.

2 Rainfall Event Summary

The MetService issued its first Severe Weather Warning for heavy rain expected in the Bay of Plenty at 08:45 on Thursday 29 December 2011:

"In the 48 hours from 3am Friday to 3am Sunday, expect 100 to 200mm about the coastal hills and ranges, especially east of Whakatane, with 100mm possible about some lower lying areas."

At 09:24 Friday 30 December 2011, the MetService issued a further warning that as much as 250mm rainfall may be possible in the Eastern ranges of the Bay of Plenty.

Approximately 48-hours after the first flood warning indicating up to 200mm rainfall, a further broadcast was released at 09:13 Saturday 31 December 2011 for Bay of Plenty areas to expect

another 90 to 120mm rainfall inland (especially in the eastern ranges) with 50-70mm more rain possible about lower lying coastal areas with falls to reach up to 25mm/hour in the ranges.

The MetService issued another warning at 20:08 on Saturday 31 December 2011:

“A few further bursts of heavy rain are expected through to mid Sunday afternoon. In the 18 hours from 9pm Saturday to 3pm Sunday, expect 40-50mm on top of what has already fallen. Intensities could reach 15mm per hour.”

MetService lifted all weather warnings at 08.13 Sunday 1 January 2012.

Cumulative rainfall across the region significantly exceeded initial MetService predictions in places, with up to 407mm measured at Waimana at Ranger Station, and 340mm measured at Waioeka at Cableway. This resulted in a significant flood - particularly for the Whakatāne-Waimana River Scheme.

Table 1: Rainfall Statistics for 31 January 2011 – 1 January 2012

Site Name	Rainfall total (mm) 30 Dec 2011 - 1 Jan 2012 inclusive	72hr Return Period	Total Rainfall for December 2011 (mm)	% of Normal rainfall December 2011
Kaituna at Te Matai	105	<2	268	273%
Mangorewa at Saunders	219	5	471	368%
Tarawera at Awakaponga	161	5	256	263%
Rangitaiki at Waihua	264	-	405	382%
Whakatane at Huiaurau Summit	268	20	428	201%
Whakatane at Huitieke	290	30	388	244%
Waimana at Ranger Station	407	20	478	265%
Waioeka at Cableway	340	10	422	237%
Otara at Browns Bridge	201	20	239	172%

3 Flood Management

Nature of Flood

A double peak flood was experienced in many of our rivers where receding flows spiked again unexpectedly during the night of Saturday 31 December 2011. A media release was put out on the morning of 1 January 2012 (see Appendix A).

The main concerns were the high flows experienced on the Whakatāne-Waimana and Rangitaiki Rivers in particular, which experienced 1.4% and 10% AEP events respectively. The peak flow statistics and flood frequency analysis for all river schemes are shown on Table 2 below.

Table 2: Peak River Flow Statistics at selected sites for 31 December 2011– 1 January 2012

Site Name	Peak Flow 31 December 2011 - 1 January 2012	Peak Flow Annual Exceedance Probability*	Comparative 1% Annual Exceedance Probability* (100yr return)
Otara at Browns Bridge	184 m ³ /s	<50% (< 2yr return)	
Waioeka at Cableway	720 m ³ /s	50-20% (2-5yr return)	1845 m ³ /s
Whakatāne at Valley Road	2594 m ³ /s	1.4% (70 yr return)	2820 m ³ /s
Rangitāiki at Te Teko	370 m ³ /s	20-10% (5-10yr return)	780 m ³ /s
Tarawera at Awakaponga	64 m ³ /s	20% (5yr return)	
Kaituna at Te Matai	152 m ³ /s	50-20% (2-5yr return)	
<p>* Annual Exceedance Probabilities derived from statistics using data up until the end of 2005. Flood events since 2005 may change these statistics once incorporated.</p>			

Rotorua Lakes

Stop-logs were proactively removed from Ōhau Channel following the first MetService rain warning on 29 December 2011, and Kaituna River rafters were warned to refrain from rafting to allow the Okere Gates to be fully opened in advance of the flood arriving. The Rotorua Lakes rose sharply with the heavy rain experienced and Okere Gates were maintained with maximum outflows for over 3-weeks following the event to stabilise high levels. Rotorua Lake levels were recorded at amongst the highest levels on record, however remained within the statutory maximum levels. A media release was put out on 19 January 2012 to improve public awareness of the high lake levels.

Matahina Dam

Close co-operation with TrustPower's Matahina operating centre was initiated at an early stage, and TrustPower agreed to reduce lake levels towards minimum normal operating level on the Duty Flood Manager's request.

TrustPower were co-operative in lowering Matahina Dam, however demonstrated that they were not able to reduce lake levels sufficiently in advance through generation alone, with the dam quickly refilling before the peak flow had arrived. Outflows stabilised at 370m³/s, with the lake providing some useful attenuation storage.

Operational Staff

Regional Council staff manned the flood room and operational staff attended to drainage and pumping related issues throughout the flood event. Various pump stations needed weed clearing during the event.

Seepage Assessments

Engineering staff monitored seepage and bank stability throughout New Year's Day. Seepage caused heaving of the tarmac around the Regional Council offices, and ponding occurred around Quay Street.

Photo 1: Ponding caused by combination of surface water runoff and seepage



Road Flooding

A number of roads were cut-off due to flooding and the relevant authorities were advised according to Regional Council's Flood Warning Manual. The most notable road flooding occurred at Waimana Gorge (SH2), Cheddar Valley, and Kopuriki Road flooded at Rabbit Bridge. Good communications were maintained with Whakatāne District Council (WDC) roading staff who co-ordinated with emergency services.

Media

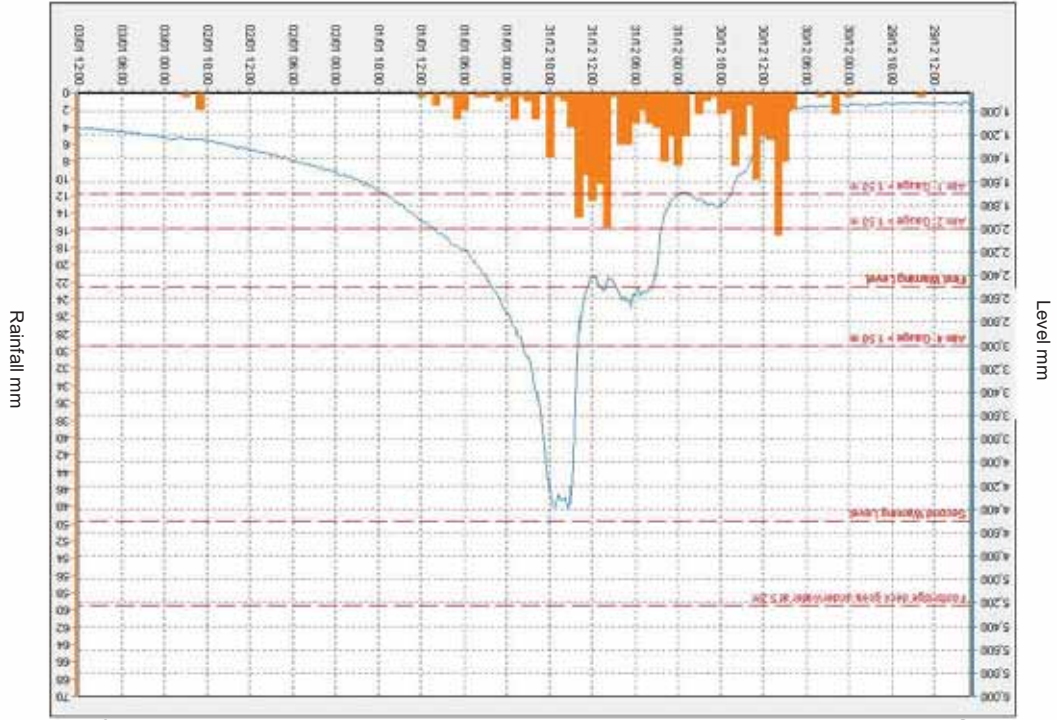
Radio stations broadcast MetService warnings and Regional Council messages for the public to move away from streams/rivers throughout the event. The communications team organised a media release on the morning of 1 January with an update collated from the flood manager situation reports (see Appendix A).

Kaituna River Scheme

Flooding over Bell Rd caused Western Bay Police concern with approximately 5000 revellers who could have been stranded on their departure at around 1am on New Year's Day. The flooding was due to the new Bell Rd pump station having not been fully commissioned or handed over to Regional Council being short on fuel, and difficulty in accessing the locked fuel tank. This was resolved successfully on the night.

Kaituna at Te Matai gauge exceeded first and second warning levels (as shown in plot 1 below), and the appropriate flood warnings were put out according to Regional Council Flood Manual. The Kaituna Right bank at Te Matai flood gate was jammed open during these high river levels, which caused local flooding. Residents alerted Regional Council and the problem was resolved.

Plot 1: Kaituna at Te Matai Level and Rainfall – 29 December 2011 to 2 February 2012



Plot 2: Mangorewa at Saunders Level and Rainfall – 29 December 2011 to 3 January 2012

Mangorewa at Saunders gauge exceeded first warning level and peaked just below the second warning level (as shown in plot 2 below).



Waioeka-Otara River Scheme

The Waioeka and Otara Rivers peaked above first warning levels, but below second warning levels, and no major problems were reported.

Whakatane River Scheme

Whakatāne River levels exceeded first and second warning levels overnight and stop-logs were installed as a precautionary measure at the boat ramp, wharf and information centre before high tide at 1am on 1 January 2012. WDC had emergency teams on standby available to sand bag if required.

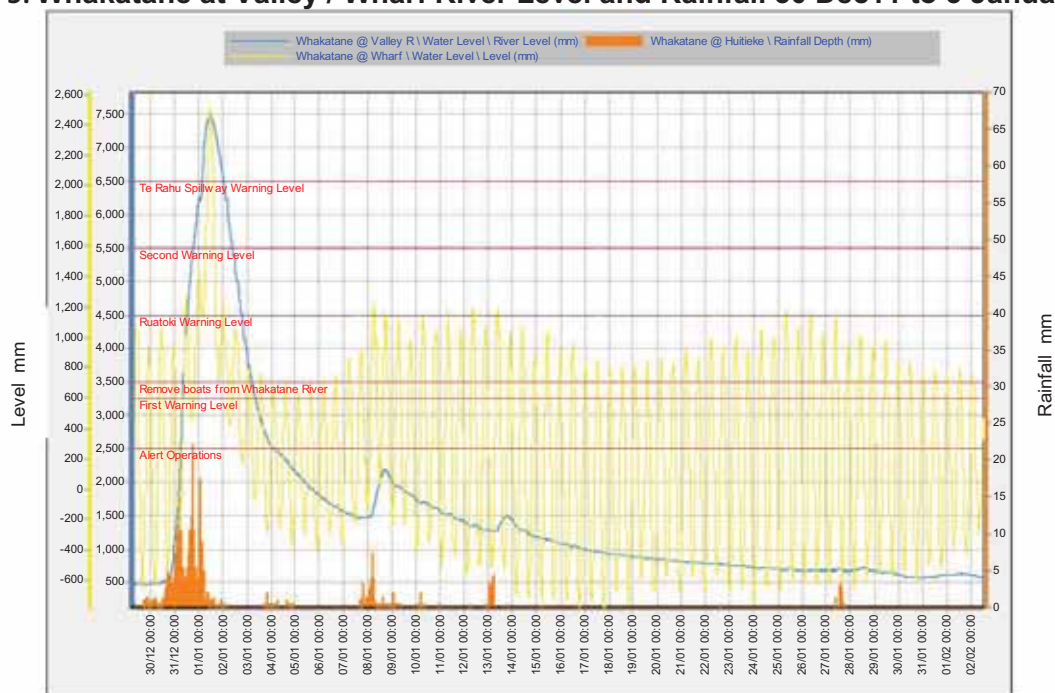
The duty flood manager instructed WDC to lower the spit with a digger at 08:00 on New Year's Day. The fuse at the Whakatāne River mouth did not breach until just before high tide at 13:25 on Sunday 1 January 2012, having the effect of instantaneously stabilising water levels as measured at the wharf.

The flood peak passed safely on the Whakatāne River with a 2,594m³/s flood passing high tide at 13:25 on 1 January – only 220m³/s short of the previous 2004 100-year flood discharge. Stop-logs were left in place around the wharf overnight as a precaution and to allow clean up at the Harbour Master's request.

Photo 2: Flood waters spilling over Whakatāne wharf at 11:41am on 1 January 2012



Plot 5: Whakatane at Valley / Wharf River Level and Rainfall 30 Dec11 to 3 January 2012



4 **Key Issues**

A key issue was that the Whakatāne River spit was observed to have an adverse effect on flood levels, as the freeboard remaining was only 600 to 800mm (equivalent to a 100-year flood) before the spit breached.

Photo 3: A digger encouraging the spit fuse to breach at 11am on 1 January



Photo 4: Sightseers on Whakatāne Wharf during the flood peak



Photo 5: Waimana Gorge tourist vehicle stranded requiring helicopter rescue



Communication and Community Response

Regular situation updates were communicated internally and to other authorities during the event.

Regional Council communications team were available for media contact during the event, and a media release was put out by WDC.

Comments have been received from the community that the response to the flood was undertaken in a professional, efficient and effective manner.

There was an incident where tourists apparently disregarded warnings, and put their lives at risk.

Photo 6: Tony Dunlop with Mayor Tony Bonne viewing Waimana River flood damage



Lessons Learned

The Whakatāne spit at the mouth of the Whakatane River continues to cause great concern for Regional Council and the community. Whakatāne District Council has undertaken to investigate the implementation of their resource consent to maintain the spit fuse, and to clarify how the required height will be maintained, and when this will occur in advance of an event. This will be written up as a guideline.

TrustPower's operation of Matahina Dam also continues to some cause concern to Regional Council flood managers. Despite good communications with TrustPower, they did not lower the dam sufficiently quickly prior to the flood peak; however their response to this was that the operation was within the existing consent requirements (no requirement to lower dam unless a 500 cumec flood is predicted). The Environmental Hazards Group has requested in their submission on the TrustPower application for a new Matahina Dam consent conditions that would allow Regional Council to instruct lowering the dam when a 300 cumec flood is predicted (such as this flood). Flood management operating guidelines are being developed in discussion with TrustPower as part of the new consent.

Regional Council Flood Managers also identified a few minor improvements that would improve our internal systems. These include improved resourcing and shift work to cover the risk of flood managers being out of the region during holidays. The existing flood room is not ideal, being small, hot and cluttered. River views would also be an advantage in order that the flood manager can also keep a look out on what is happening with the river. A flood hotline would be desirable to avoid Flood Managers having to undertake an administration role in deciphering important calls from the majority of less important calls. *An internal review of the flood room set up is currently underway.*

Whilst good communications with WDC was achieved throughout the flood, and they responded well, there was some uncertainty as to when civil defence should activate their emergency management centre. A flood debrief was held with WDC on 24 January 2012 and the minutes are included in Appendix C.

Eastern Bay of Plenty Civil Defence, led by WDC, has committed to developing a Flood Response Plan for the Eastern Bay with defined trigger levels for key rivers as an indicator that a Group and/or local civil defence response should be initiated, with likely road closures. This plan will also define communication channels in such events, list operational personnel and contact details between the Regional and District Councils, and the Whakatane Emergency Rescue Team (WERT). It will also include arrangements for the sharing of resources (such as pumps) between Councils.

Flood damage

Early indications are that the schemes were not severely affected by flood damage despite the large flows. This is believed to be a result of the prompt prioritisation and repairs following 2010/11 floods.

8 **Financial Implications**

Current Budget

The financial costs of the flood management and response to this event are within existing budgets.

Future Implications

Separate reports will be delivered if necessary following flood damage assessments.

Ten Year / Annual Plan Implications

No Ten Year Plan or Annual Plan implications at this stage, however flood damage assessments are underway.



Appendix A

MEDIA RELEASE

www.boprc.govt.nz

Rivers still rising and surface flooding mop up for Eastern BOP

For immediate release Sunday 1 January 2012

In the eastern Bay of Plenty river levels are still rising, roads are closed and there is significant surfacing water still around, so holidaymakers and residents are advised to take care,

Bay of Plenty Regional Council's duty flood manager, Ken Tarboton said that there had been some wild weather and a lot of rain which has resulted in a lot of surface flooding and some road closures.

Rainfall to date:

- western Bay of Plenty: 70mm to 120mm
- Rotorua/Kaituna: 150mm to 210mm
- Rangitāiki: 150mm to 250mm
- eastern Bay of Plenty 170mm to 300mm

Mr Tarboton said rivers in the eastern Bay had risen overnight and would continue to do this for some time today given the heavy rainfall in the ranges.

Rivers as at 7am today:

- Kaituna @ Te Matai peaked at 1am – falling slowly.
- Rangitāiki @ Rabbit Bridge still rising
- Rangitāiki @ Te Teko close to peaking at 3am just below 2nd alert level
- Whakatāne @ Wharf peaked with high tide at 1am below the level of the stop logs which were inserted as a precautionary measure.
- Whakatāne close to peaking around 3am at Rūātoki and Valley.
- Waimana @ Gorge – continues to rise at Gorge and Ranger Station approx. 250mm/hr.
- Waioeka @ cableway – continues to rise approx. 150mm/hr
- Nukuhoe @ Glenhlome continues to rise approx. 150 mm/hr

Some roads are closed due to the flooding and people should check for the latest information on this by visiting www.whakatane.govt.nz for local roads and www.nzta.govt.nz

Some of the current closures are:

- State Highway 2 at Waimana flooded and closed at Wardlaw Glade.
- Valley Road between Whakatāne and Tāneatua flooded during night but was open to vehicles travelling with caution.

- Wainui Road is still flooded at Glenholme Road. Also closed off between Cheddar Valley and Stanley Road.
- Kopuriki Road is still flooded at Rabbit Bridge.
- Possible surface flooding on Kaituna Right Bank at Te Matai.

Mr Tarboton said Regional Council staff were continuing to work throughout the day to monitor the situation and undertake any emergency works that might be required.

Appendix B



MEDIA RELEASE

www.boprc.govt.nz

Rotorua lakes hit record levels

For immediate release: 19 January, 2012

Some of Rotorua's lakes have hit record levels following exceptionally heavy rain in the catchment over the New Year – but some haven't quite reached last summer's records.

Lake Rotomā's water level is the highest it has been for at least 10 years, and Lakes Ōkātina and Rotomahana are at the highest level recorded since the 1970s. Rerewhakaaitu is the highest since the 1960s, however Lake Rotorua and Lake Rotoiti were even higher in January 2011, according to Bay of Plenty Regional Council's data. Lake Ōkāreka is currently at 354.1 metres - 10cm lower than it was in July last year.

Most rainfall data is well above 'normal' levels, some by as much as 380 percent, and levels measured at Ohinekoao at Herepuru Rd is 550 percent above normal.

Regional Council Engineering Manager Colin Meadowcroft said heavy rainfall from late December to early January significantly raised water levels in the district. Lake levels were pre-emptively lowered following MetService Weather Warnings in late December.

"The Ōkere Gates have been fully open and stoplogs have been removed since 30 December to maximise outflows from lakes Rotorua and Rotoiti to reduce lake levels as quickly as possible."

He said the high lake levels could pose some problems for boaties using ramp facilities, and residents may notice some drainage problems due to the high water levels.

"Unfortunately there is little more that the Council can do until lake levels lower naturally," he said.

Ends

For further media information please contact Graeme O'Rourke on 0800 884 880 or Linda Thompson, Senior Communications Advisor, on direct dial 0800 884 881 ext 8149 or (021) 923 339.

Appendix C



New Years Day 2012 Flood Debrief

**Meeting held in Whakatane District Council Chambers
Tuesday, 24 January 2012**

Present	David Bewley (WDC), Jim Tetlow (WDC), Graeme Easton (NZFS), Ken Tarboton (BOPRC), Colin Meadowcroft (BOPRC), Tony Dunlop (BOPRC), Bruce Crabbe (BOPRC), Peter Cavanagh (WDC), Mark James (BOPRC), Dean Latus (BOPRC), Leilani Salanguit (WDC), Glenn Cooper (WDC), Santha Agas (WDC), Coral Hair (WDC), Martin Taylor (WDC), Doug Muirhead (Opus)
Minutes	Charis Henton (WDC)

BOPRC Emergency Hazard Group

1. Request for action points to come from meeting with timeframes
2. Earlier identified communication issues still not resolved
3. Regional flood defences performed well in New Years event
4. Investigation needed concerning blowing of spit fuse at Whakatane river mouth
5. Stoplogs leaked. BOPRC operational staff looking at improvements.
6. Issue around Muriwai Drive, Quay Street and Kakahoroa Drive (VIC) with seepage. Water cannot escape from these areas when river levels are high.
7. More reliable non-return valves could be an option.
8. Further up the valleys, it flooded where it was expected to flood. Some farms have low level design stopbanks (2 to 5 years).
9. Developing Readynet text messaging to avoid having to phone individual farmers.
10. Timing of getting digger on spit fuse an issue from a safety point of view.
11. BOPRC working on number of strategies and initiatives – Regional Flood Risk Management Strategy, “Floods a Plenty” website, Readynet, Water right software and flood forecasting improvements.
12. Whakatane River spit needs correct differential heights to blow successfully.
13. Ken noted that the resource consent belongs to the Whakatane District Council and it is the WDC’s responsibility to maintain the spit at the required height. However, it is recognised that it is impractical to enforce this provision all the time. WDC should not rely on the Regional Council to tell it that the spit needs checking.

ACTION 1: Investigate the implementation of the resource consent to maintain the spit fuse at the mouth of the Whakatane River, and clarify who will maintain the required height and when this will occur in advance of an event. This will be written up as a guideline for circulation.

LEAD: Paula Chapman, Whakatane District Council

TIMEFRAME: 23 March 2012

Civil Defence

1. There is no flood response plan developed for Whakatane District Council.
2. Trigger points for river levels need to be identified for when an EOC should be established.
3. Could consider establishing an EOC in the flood room at BOPRC if reliant on telemetry system for monitoring.
4. Group plan only talks about rainfall intensity (30mm/hr) as an indicator of need to set up a Civil Defence response, not river levels or flows.
5. WDC's Operations Business Unit (OBU) needs to have better system for monitoring weather warnings.
6. Group has templates for Sitreps.
7. WDC "after hours" service may not have been well manned during this event. Staff to investigate.

ACTION 2: Develop a flood response plan for the Eastern Bay with defined trigger levels for key Rivers as an indicator that a Group and/or local CD response should be initiated, and likely road closures. This plan will also define communication channels in such events, list operational personnel and contact details between the BOPRC and the WDC/ODC/KDC and the Whakatane Emergency Rescue Team (WERT). It will also include arrangements for the sharing of resources such as pumps between Council's.

LEAD: Jim Tetlow, Whakatane District Council

TIMEFRAME: May 2012

Roading

1. Crews were on stand by on News Years Eve
2. Rhythm and Vines concert in Gisborne finishing on News Years day and large volumes of traffic anticipated.

3. Opotiki District Council were not kept briefed well enough as event and consequences on road network unfolded.
4. Police requested the close of traffic from Ohope along Wainui Road to allow Rhythm and Vines traffic coming from Opotiki a safe route through.
5. Request for trigger levels on key rivers in and around Cheddar Valley, Waimana and Valley Road to be established that would indicate road flooding in advance.
6. The local contractors responded very well to help clear roads.
7. Known flood areas (Taneatua Road, Waimana Gorge, Amohau Road, Rewatu Road) did flood. It isolated Taneatua, Ruatoki and Waimana.
8. WDC and NZTA are jointly working on a Route Security project that identifies these floodable areas. WDC is keen to work with BOPRC over time to identify solutions to some of these issues, and that may take the form of stopbanking to avoid roads being flooded.
9. Concern expressed from local farmers near Pekatahi Bridge that silt has built up under the bridge. Also concerns about the timing of the fuse being blown as it is perceived to affect extent of flooding near Taneatua.
10. Issue identified to get flood signs and cones in Taneatua for when township is isolated. A trailer is a possibility stored at the Taneatua Fire Station, subject to space being available. It was raised whether something similar could be provided for Waimana, stored at the Rural Fire depot.
11. Road closure information kept up to date by OPUS and Council on Council website and through 1XX. WDC looking to put information on AA website in future.

ACTION 3: BOPRC to have meeting with concerned landowners along Whakatane River (near Taneatua) to discuss their issues.

LEAD: Ken Tarboton

TIMEFRAME: 23 March 2012

ACTION 4: Trailer of road signs and cones to be provided to Taneatua Fire Service, subject to storage being available for when township is isolated. Investigate similar arrangements for Waimana.

LEAD: Martin Taylor

TIMEFRAME: 23 March 2012

Utilities

1. Need to meet with BOPRC to discuss the sharing of resources, namely pumps during flood events. There is currently no formal procedure between the Councils (see Action 2).
2. High turbidity recorded in Ruatoki water. While staff could not access site, a “boiled water notice” was issued, that was uplifted on 12 January 2012.
3. There was seepage through some stopbanks, particularly through some flood gates. It raised a concern about the coordination between the Council’s in relation to maintenance of these assets, and it was raised that there is currently confusion about the ownership of various floodgates in stopbanks.

ACTION 4: Utilities staff to meet with BOPRC staff to discuss weak points in rivers near water extraction points, such as in Ruatoki. The Murupara oxidation ponds were also identified as needing further investigation.

LEAD: Santha Agas

TIMEFRAME: 23 March 2012

ACTION 5: Utilities staff to meet with BOPRC staff to clarify ownership, responsibility and improvements to floodgates in Whakatane.

LEAD: Santha Agas

TIMEFRAME: 23 March 2012

NZ Fire Service

1. NZ Fire Service considered flood pumps operated well in Whakatane.
2. Concern that NZFS staff manned the closure of Wainui Road for 5 hours. A response was that they probably were not required for that length of time. This issue will be raised through the EMSCC.
3. The Ohope Fire Service has recently purchased two trash pumps.
4. NZFS vehicles are not suitable for driving through flood waters above axle level.

Date of Next Meeting: 11:00am Friday, 23 March 2012 at Whakatane District Council
for update against Action list.

Colin Meadowcroft
Engineering Manager, Rivers and Drainage

for Group Manager Environmental Hazards

14 February 2012

APPENDIX 1

Rotorua lakes - record levels for lakes

MEDIA RELEASE

www.boprc.govt.nz

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APPENDIX 2

Flood Debrief Minutes



New Years Day 2012 Flood Debrief

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ACTION 2: Develop a flood response plan for the Eastern Bay with defined trigger levels for key Rivers as an indicator that a Group and/or local CD response should be initiated, and likely road closures. This plan will also define communication channels in such events, list operational personnel and contact details between the BOPRC and the WDC/ODC/KDC and the Whakatane Emergency Rescue Team (WERT). It will also include arrangements for the sharing of resources such as pumps between Council's.

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10. Issue identified to get flood signs and cones in Taneatua for when township is isolated. A trailer is a possibility stored at the Taneatua Fire Station, subject to space being available. It was raised whether something similar could be provided for Waimana, stored at the Rural Fire depot.
11. Road closure information kept up to date by OPUS and Council on Council website and through 1XX. WDC looking to put information on AA website in future.

ACTION 3: BOPRC to have meeting with concerned landowners along Whakatane River (near Taneatua) to discuss their issues.

LEAD: Ken Tarboton

TIMEFRAME: 23 March 2012

ACTION 4: Trailer of road signs and cones to be provided to Taneatua Fire Service, subject to storage being available for when township is isolated. Investigate similar arrangements for Waimana.

LEAD: Martin Taylor

TIMEFRAME: 23 March 2012

Utilities

1. Need to meet with BOPRC to discuss the sharing of resources, namely pumps during flood events. There is currently no formal procedure between the Councils (see Action 2).
2. High turbidity recorded in Ruatoki water. While staff could not access site, a “boiled water notice” was issued, that was uplifted on 12 January 2012.
3. There was seepage through some stopbanks, particularly through some flood gates. It raised a concern about the coordination between the Council’s in relation to maintenance of these assets, and it was raised that there is currently confusion about the ownership of various floodgates in stopbanks.

ACTION 4: Utilities staff to meet with BOPRC staff to discuss weak points in rivers near water extraction points, such as in Ruatoki. The Murupara oxidation ponds were also identified as needing further investigation.

LEAD: Santha Agas

TIMEFRAME: 23 March 2012

ACTION 5: Utilities staff to meet with BOPRC staff to clarify ownership, responsibility and improvements to floodgates in Whakatane.

LEAD: Santha Agas

TIMEFRAME: 23 March 2012

NZ Fire Service

1. NZ Fire Service considered flood pumps operated well in Whakatane.
2. Concern that NZFS staff manned the closure of Wainui Road for 5 hours.
A response was that they probably were not required for that length of time. This issue will be raised through the EMSCC.
3. The Ohope Fire Service has recently purchased two trash pumps.
4. NZFS vehicles are not suitable for driving through flood waters above axle level.

Date of Next Meeting: 11:00am Friday, 23 March 2012 at Whakatane District Council for update against Action list.

