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Committee Catchment Management
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Flood Protection Annual Asset Management Report 2007/08

1. Purpose

- 1.1 To report on the condition of Flood Protection infrastructural assets as at 30 June 2008.
- 1.2 To present the 2007/08 Asset Performance Statements for the seven river management schemes within the Wairarapa.

2. Significance of Decision

The matters in this report do not trigger the significance policy of the Council or otherwise trigger section 76(3) (b) of the Local Government Act 2002.

3. Background

The Flood Protection Department is responsible for a variety of infrastructural assets that form the basis of flood protection schemes in the Wellington region. These assets have a total value of approximately \$189 million (2007 valuation) and provide flood protection to property and people residing on the floodplains of these rivers.

The monitoring of scheme assets over the past financial year seeks to reassure Council that the various assets are being managed appropriately, maintained to the desired standard, will perform when needed, and where necessary, are being enhanced by a capital works programme.

4. Summary

Our annual asset inspections showed that the majority of frontline flood defences are well maintained and are in good condition. The relatively stable weather experienced during the past year meant that the planned work programmes were completed on schedule without too many problems.

Each year Performance Statements are prepared reporting on asset management plan performance indicators. The performance criteria of the schemes have been generally met on all of the schemes, except for a few minor issues.

The scheme performance statements are contained in Attachments 2 – 9 of this report and summarised in section 6 below.

5. Peer review

An external peer review of Scheme maintenance standards was carried out by river engineering staff from the Horizons Regional Council in June 2008. The peer review provides an external audit of maintenance standards and procedures and provides a useful forum for the exchange of knowledge and ideas. The reviewers' comments were generally favourable and their report is included as **Attachment 1**.

The reviewers consider correct decisions are being made with regard to river maintenance works. The reviewers are confident that the schemes are being managed and maintained appropriately given the resources available.

6. Scheme summaries

6.1 Wellington

6.1.1 Hutt River

Infrastructural assets on the Hutt River are constructed to provide a high level of service and maintained to a high standard, as warranted by the scheme's importance in protecting one of the most developed floodplains in New Zealand. The total value of flood protection assets on the Hutt River is \$62.0M (2007 valuation).

Stable weather during the year meant the Wellington operations work programme was completed at year end with all programmed work finished as per programme and to budget. Annual asset inspections showed that the majority of frontline flood defences such as stopbanks, rocklines, debris fences, groynes and other edge protection works are well maintained and in good condition.

Attachment 2 presents a summary of the stopbank maintenance condition ratings for the Hutt, Otaki and Waikanae Rivers.

We also concentrated on the rejuvenation of our willow lines, which involved removing old willows and replacing with new on the correct river alignment.

Gravel extraction (channel shaping) continues in the reach below Kennedy Good Bridge to restore bed level and channel capacity back to 1998 levels. We will look at options for extracting from the high gravel beaches near Moonshine during the next year.

Environmental and recreational initiatives included planting of many native trees and the use of the Hutt River Trail by the local community which has proved to be an outstanding success.

6.1.2 Wainuiomata River

There is a limited flood protection scheme on the Wainuiomata River, comprising stopbanks, outlet structures and willows at a 2007 valuation of \$1.3M. We are continuing to rejuvenate several willow lines that are below the desired standard following flood events in February 2004 and July 2006. An extensive planting programme has been developed to secure the river within the design channel alignment and bring our willow lines back up to an acceptable standard.

6.1.3 Porirua Stream

The Porirua Stream scheme includes infrastructural assets through the central business district and two earth detention dams valued at \$5.5M. The scheme was completed in the 1990s, so assets are relatively new and are in good condition.

The detention dams (Stebbins and Seton Nossiter) have comprehensive safety reviews completed every 5 years which focus on major safety aspects and are part of the long term care of the structures. Annual inspections provide assurance of the ongoing safe performance of each structure between the formal reviews. The latest annual inspections for each dam indicate that the general standard of maintenance is very good and that no dam safety deficiencies were identified.

6.2 Kapiti

The last major flood event experienced on the Kapiti Coast was in January 2005 which was an estimated 1 in 80 year event for the Waikanae River. Since then there have been long periods of stable weather which has enabled the completion of planned work programmes on schedule and to budget and the repair of all the flood damage experienced in the January 2005 flood event.

6.2.1 Otaki River

The annual asset inspection showed that infrastructural assets on the Otaki River are in good condition. This is attributed to improvements that have been completed and the regular inspection and maintenance regime carried out. Otaki River assets are valued at \$16.5M.

6.2.2 Waikanae River

As with the Otaki River, the annual asset inspection showed that the Waikanae River flood protection assets are in good condition. Waikanae River assets are valued at \$6.7M.

6.3 Wairarapa

6.3.1 Lower Wairarapa Valley Development Scheme

Stable weather during the year meant that staff were able to complete the maintenance and the development works programmes on time and within budget. The flood damage repair works brought forward from the previous year were also completed. The total cost of the works completed was \$1.74 million. After 4 years work, the review and the re-classification of the Lower Wairarapa Valley

Development Scheme was completed and the new rates were adopted by the Council in June 2008.

The Scheme's Asset Management Plan performance criteria have been achieved satisfactorily except for a few minor items which centred around some deferred maintenance to be carried out next year. The 2007/08 Scheme Performance Statement for the Lower Wairarapa Valley Development Scheme is included as **Attachment 3**.

The scheme reserve closing balance was \$1,098,694 with the Major Flood Damage Reserve Fund closing balance at \$563,679. LVWDS assets are valued at \$84M.

6.3.2 Waiohine - Mangatarere River Management Scheme

The condition of the Waiohine-Mangatarere Scheme assets are continuing to improve. The annual works programme for 2008/2009 has been increased by \$56,000 to \$300,000 to cover ongoing maintenance activities as well as continue the building of rock groynes and the planting of the buffer zones.

There have been no major floods since February 2004 and this has allowed maintenance to focus on proactive works and not reactive works. River works have concentrated on establishing the active channel to the preferred design alignment. As a result 13.4kms (or 84%) of active channel is within the design alignment out of a total length of 16kms which exceeds the scheme's asset performance criteria of 80% minimum.

The scheme's 5 yearly management performance was reviewed this year. From the Performance Statement, **Attachment 4** it can be seen that the majority of criteria have been satisfied. The exceptions were berm width in front of some stopbanks being too small and area of scrub in the channel fairway being greater than the target level.

The schemes reserve closing balance for the 07/08 financial year is \$411,425 with the Major Flood Investment Fund closing balance at \$18,591.

6.3.3 Waingawa River Management Scheme

The Waingawa Scheme is in reasonable overall financial and physical condition. Asset Management Plan performance criteria have been largely satisfied, the exception was the length of active channel outside the designated channel fairway which is above the target level (see **Attachment 5**) The Waingawa River has benefited from being free of large floods since 2004. This has enabled good progress to be made on improving the river alignment and planting. The annual works programme expenditure of \$161,024 is adequate to meet the Scheme's ongoing maintenance needs. Scheme assets are generally in good condition. The Scheme has accumulated a reserve of \$46,762 and contributed to the major flood damage reserve fund as required.

The Waingawa Scheme is currently being reviewed.

6.3.4 Upper Ruamahanga

In contrast to previous years there were no significant floods; however in the Gladstone section erosion protection works was required at particular hotspots. In general the low flows allowed for a full focus onto the scheduled works programme.

6.3.5 Mt Bruce River Management Scheme

The Scheme works programme this financial year is \$68,000. Design channel alignment has improved over the last year. Aerial spraying was completed for specific reaches on densely vegetated islands and beaches. The aerial spraying will be reviewed to determine if it is a cost effective operation and of benefit to the management of the design alignment. The asset management plan annual performance criteria have been largely satisfied for the scheme, see **Attachment 6**. The exceptions were the average Flood damage expenditure being slightly higher than the target level and those around channel fairway and buffer zone not meeting their target levels. The scheme reserve closing balance was \$53,495.

6.3.6 Upper Ruamahanga - Te Ore Ore River Management Scheme

Further rock work at Henley Lake was completed along with gravel extraction and river alignment work which has reduced the risk to erosion to this particular area. The alignment of the river to the preferred design has benefited by the use of dozer machinery and this is recognised by the scheme committee members. The committee is still aware of the management of Old Man's Beard and has increased the works programme for the second consecutive year by \$5,000 on the 2008 / 2009 budget to cater for additional spraying.

The asset management plan annual performance criteria have been largely satisfied for the scheme and summarised in **Attachment 7**. The exceptions were the proportion of channel fairway covered with vegetation being higher than the target level and the extent of bed recontouring being higher than the consent condition permitted.

The Scheme works programme for this year is \$121,000. The scheme reserve closing balance was \$77,487.

6.3.7 Upper Ruamahanga - Gladstone River Management Scheme

While the 2007/08 year has been free of major floods, a number of minor freshes have caused substantial erosion damage at particular hotspots on the downstream reaches from the confluence of the Waingawa to the Gladstone Bridge.

Erosion protection works at the Cliffs in Dakins Road was completed in March 2008. The work was funded through contributions from Greater Wellington and Carterton District Council and maintenance will be managed through the scheme. The total cost of the rock work was \$158,000 excluding GST.

The asset management plan annual performance criteria have been largely satisfied for the scheme and summarised in **Attachment 8**. The exception was the proportion of channel fairway covered with vegetation exceeding the target level.

The Scheme works programme this year is \$111,300. The scheme reserve closing balance was \$62,009.

6.3.8 Waipoua River Management Scheme

There was a significant flood last October which caused some bank erosion that needed substantial repair. This work was completed.

The asset management plan performance criteria have been largely satisfied as summarised in **Attachment 9**. The exceptions were the area of eroded buffer zone was higher than the target level and condition 3 of the resource consent was exceeded due to flood damage in this year. The Scheme is recovering financially from the significant costs incurred from repairing flood damage in the period up to and including 2004. The Scheme now has a reserve balance of \$36,255 and a combined reserve of \$48,649 including the major flood investment reserve balance.

A review of the lower section of the Scheme is proposed for 2009/10.

7. Communication

This report is written primarily for internal quality assurance purposes. The Asset Management Plan Performance Statements will be presented to the Scheme advisory committees for their information.

8. Recommendations

That the Committee:

1. *Receives the report*
2. *Notes the contents of the report*

Report prepared by: Report prepared by:



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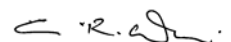
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- Attachment 1:** Peer Review of Greater Wellington Flood Protection Assets by Horizons Regional Council 19-20 June 2008
- Attachment 2:** Stopbank maintenance performance measure
- Attachment 3:** 2006/07 Scheme Performance Statement for the Lower Wairarapa Valley Development Scheme
- Attachment 4:** 2006/07 Scheme Performance Statement for the Waiohine-Mangatarere Scheme
- Attachment 5:** 2006/07 Scheme Performance Statement for the Waingawa Scheme
- Attachment 6:** 2006/07 Scheme Performance Statement for the Mt Bruce Scheme
- Attachment 7:** 2006/07 Scheme Performance Statement for the Upper Ruamahanga - Te Ore Ore Scheme
- Attachment 8:** 2006/07 Scheme Performance Statement for the Upper Ruamahanga - Gladstone Scheme
- Attachment 9:** 2006/07 Scheme Performance Statement for the Waipoua Scheme