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Committee Catchment Management
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Flood Protection Annual Asset Management Report 2008/09

1. Purpose

- 1.1 To report on the condition of Flood Protection infrastructural assets as at 30 June 2009.
- 1.2 To present the 2008/09 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

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 “business as usual” 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.

The scheme performance statements are contained in Attachments 2 – 8 of this report and summarised in section 6 below.

5. Peer review

Flood Protection staff undertook a bi-annual peer review of assets for Horizons Regional Council in June. The next peer review of scheme maintenance standards for Greater Wellington flood protection assets is due to be carried out in 2010. The peer review provides an external audit of maintenance standards and procedures and provides a useful forum for the exchange of knowledge and ideas between regions.

6. Scheme summaries

6.1 Wellington

6.1.1 Hutt River

The total value of flood protection assets on the Hutt River is \$62.0M (2007 valuation). 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.

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

Staff concentrated on the rejuvenation of the willow lines, which involved removing old booth willows and replacing with new hybrid willows on the correct river alignment.

A 5 yearly bed survey of river bed levels was completed during the year. Gravel extraction and channel shaping were also successfully completed around the Kennedy Good Bridge.

Environmental and recreational initiatives included planting of many native trees and an extension of the Hutt River Trail. Bike the Trail also received a "Highly Commended" Award in the Outstanding Event category from the NZ Recreation Association. This event has been running in its current form since 2004, growing from 400 to just over 1800 participants. It involves 3 councils, 35 marshals, several major sponsors and numerous community groups.

Resource consents for sand extraction at the Hutt river mouth expire in 2011. Significant resources will be required to complete the renewal process.

6.1.2 Wainuiomata River

Willow lines that are below the desired standard continue to be rejuvenated. An extensive planting programme has been developed to secure the river within the design channel alignment and bring willow lines up to an acceptable standard. There is a limited flood protection scheme on the Wainuiomata River, comprising stopbanks, outlet structures and willows at a 2007 valuation of \$1.3M.

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. A check of bed levels through the city centre reach will be completed in 2009/10.

The detention dams (Stebbing 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 no dam safety deficiencies were identified.

6.2 Kapiti

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. Maintenance tasks completed during 2008/09 included removing trees off stopbanks, rejuvenation of willow lines, protection of the “cliffs” reach by dozer work and new rock groynes constructed upstream of the SH1 bridge and at Mangahenene.

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. Maintenance tasks completed during 2008/09 included a new rockline by the boat club, a 200m extension of the walking trail to Edgewater Park and environmental enhancement work to open up the Oxbow dead arm and the clearance of weeds at Kebbells Bend.

6.3 Wairarapa

6.3.1 Lower Wairarapa Valley Development Scheme

There were three minor flood events in July, August and October 2008 which caused some minor damage and have since been repaired.

All maintenance and development works have been completed to programme.

Some changes were made to the development works programme and approved by the Catchment Management Committee. The major changes were the purchase of 15ha land at Tauanui to develop a delta to deposit gravel, and to divert the Turanganui River on to scheme owned land for deposition of gravel.

The 2009/10 works programme is made up of \$805,000 for normal maintenance works and \$773,000 for development work, totalling \$1.58 million.

The 2008/09 Scheme Performance Statement for the Lower Wairarapa Valley Development Scheme is included as **Attachment 2**.

The scheme reserve closing balance was \$1,354,096 with the Major Flood Damage Reserve Fund closing balance at \$651,469. LWVDS assets are valued at \$84M.

6.3.2 Waiohine - Mangatarere River Management Scheme

Conditions of the Waiohine-Mangatarere Scheme assets are continuing to improve. The current annual works programme of \$300,000 is seen as adequate to meet ongoing Scheme maintenance needs. It is planned to maintain the works programme at this level for 2009/10.

Rock groyne placement is ongoing and generally the most vulnerable sites are targeted as a priority on an annual basis. Currently there are no serious erosion areas which are directly affecting farmland. Flood damage funding was called upon in October 2008 after a large event. The extra works as a result of this flood amounted to \$122,000 in repair works.

From the Performance Statement, **Attachment 3**, it can be seen that the majority of criteria have been satisfied.

The scheme reserve closing balance was \$437,557, with the Major Flood Investment Fund closing balance at \$18,591.

6.3.3 Waingawa River Management Scheme

The physical condition of the Waingawa Scheme is continuing to improve by adhering to the design channel alignment plans. Channel alignment is the predominant works with follow up willow planting once the areas are less erosion prone.

The Asset Management Plan performance criteria have been largely satisfied, see **Attachment 4**. Flood damage funding was called upon in October 2008 after a large event. The extra works as a result of this flood amounted to \$51,300 in repairs. The scheme reserve closing balance was \$57,858 with the Major Flood Investment Fund closing balance at \$14,591.

The Waingawa Scheme is currently being reviewed.

6.3.4 Upper Ruamahanga - Mt Bruce River Management Scheme

In October 2008 a 2 year flood occurred in the Upper Ruamahanga River, with Mount Bruce recording a stage level of 3.6m and a flow rate of 290m³/second. In addition there were a number of subsequent freshes that followed in the next three weeks. In February 2009 an equivalent 2 year flow was recorded but not of the duration of the October flows. The amount of flood damage was not significant but has caused erosion and large amounts of deposition of gravel, in particular the reaches between Te Ore Ore Bridge and Black Rock Road. In addition, the recent downturn in the construction industry is starting to show in a reduction in the removal of gravel by our major extractors. A close watch on that issue is required to manage the required extraction at specific areas.

The asset management plan annual performance criteria have been largely satisfied for the scheme, see **Attachment 5**. The scheme reserve closing balance was \$76,557.

6.3.5 Upper Ruamahanga - Te Ore Ore River Management Scheme

Floods of up to a 2 year return period were recorded through the Te Ore Ore scheme in October 2008 and February 2009. The amount of flood damage was limited to a few erosion points. However, the flows in February resulted in gravel deposition on a number of beaches which will require work to maintain the preferred alignment. Maintenance on a number of rock groynes, plus additional groynes for the next years programme have been identified.

The asset management plan annual performance criteria have been largely satisfied for the scheme, and are summarised in **Attachment 6**.

The scheme reserve closing balance was \$106,224.

6.3.6 Upper Ruamahanga - Gladstone River Management Scheme

Substantial flood damage was caused throughout the length of the river after floods in October 2008 and February 2009. This required a range of works including, channel alignment, boulder groynes, rail groynes. A meeting and site visit was held on 19 December 2008, to advise the committee and endorse the revised works programme and financial statement. The flood damage triggered an additional funding contribution from the GWRC. In total the amount of flood damage was \$60,000. The works programme was adjusted to accommodate \$20,000 of the flood damage with the remaining \$40,000 met by GW from the reserve.

In addition, boulder groynes were constructed to prevent erosion to borehole sites at Borthwick and Mebus. These works were funded 100% by the landowner.

The asset management plan annual performance criteria have been largely satisfied for the scheme, and are summarised in **Attachment 7**.

The scheme reserve closing balance was \$59,397.

6.3.7 Waipoua River Management Scheme

The physical condition of the Waipoua Scheme is continuing to improve by the increasing use of hard protection as funds permit. Willow planting and cabling is still the predominant work with the occasional use of boulder groynes.

The asset management plan performance criteria have been satisfied as summarised in **Attachment 8**. Flood damage funding was called upon in October 2008 after a large event. The extra works as a result of this flood amounted to \$88,234 in repairs.

The scheme reserve closing balance was \$28,943 with the Major Flood Investment Fund closing balance at \$14,324.

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*

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Attachment 1: Stopbank maintenance performance measure

Attachment 2: 2007/08 Scheme Performance Statement for the Lower Wairarapa Valley Development Scheme

- Attachment 3:** 2007/08 Scheme Performance Statement for the Waiohine-Mangatarere Scheme
- Attachment 4:** 2007/08 Scheme Performance Statement for the Waingawa Scheme
- Attachment 5:** 2007/08 Scheme Performance Statement for the Upper Ruamahanga-Mt Bruce Scheme
- Attachment 6:** 2007/08 Scheme Performance Statement for the Upper Ruamahanga - Te Ore Ore Scheme
- Attachment 7:** 2007/08 Scheme Performance Statement for the Upper Ruamahanga - Gladstone Scheme
- Attachment 8:** 2007/87 Scheme Performance Statement for the Waipoua Scheme