



**Report**                **06.493**  
**Date**                 8 September 2006  
**File**                  N/50/01/30

**Committee**        **Landcare**  
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## **Western Rivers Asset Management report for 2005/06**

### **1. Purpose**

To report on the condition of Western Rivers infrastructural assets as at 30 June 2006.

### **2. Background**

The Flood Protection Department is responsible for a variety of infrastructural assets that form the basis of flood protection schemes on the Hutt, Otaki, Waikanae, and Wainuiomata Rivers and the Porirua Stream. These assets have a total value of approximately \$68.5 million (2002 valuation) and provide flood protection to property and people residing on the floodplains of these rivers.

Monitoring of scheme infrastructural 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 appropriately enhanced by a capital works programme.

The capital works programmes for Hutt, Otaki and Waikanae Rivers are set out in the relevant Floodplain Management Plans. Capital works raise the level of service of the flood protection schemes, and also create assets which must be maintained. Progress with the implementation of the various capital works is the subject of a separate report to the Landcare Committee.

### **3. Summary**

Our annual asset inspections showed that the majority of frontline flood defences are well maintained and are in good condition. Even though we experienced an extremely wet winter, the planned work programmes were completed on schedule without too many problems including repair of assets damaged in the January 2005 flood event.

Overall, the majority of scheme infrastructural assets are in good condition, with 78% of the stopbanks on the three major schemes having a condition

rating of either 1 or 2. **Attachment 1** presents a summary of the stopbank maintenance condition ratings.

Good progress was also made with review of our base asset management plan. This included contributing to an organisation wide review of asset management information needs, as well as routine work like data collection, and annual inspections. A list of the work completed during the 2005/06 year, and planned tasks for 2006/07 is provided in **Attachment 2**.

## **4. Scheme summaries**

### **4.1 Wellington**

#### **4.1.1 Hutt River**

Infrastructural assets on the Hutt River are maintained to a high standard; as warranted by the scheme's importance in protecting one of the most developed floodplains in New Zealand.

Even though we experienced an extremely wet winter the Wellington operations work programme was completed at year end with all programmed work, including flood damage works, finished as per programme and to budget. Annual asset inspections showed that the majority of frontline flood defences such as rocklines, debris fences, groynes and other edge protection works are well maintained and in good condition.

All outstanding flood damage works, which were noted in the 2004/05 report as requiring attention in 2005/06, were completed, including:

- The debris arrestor on Speedy's Creek was completely rebuilt.
- Toe rock was placed at Black Creek.
- A concrete block grid mattress and groynes were constructed at Manor Park golf course.
- The rockline at Avalon was extended.
- The Bluff rockline was extended.
- Placement of toe rock under the longitudinal gabion basket works at Elbow Park, above Maoribank corner.
- Four rockheads added to the existing debris fences at Avalon.

The above work resulted in the creation of 335 lineal metres of new rocklining, and six new groynes. 4,495 tonnes of B and C grade rock was used in total.

We also specifically concentrated on the rejuvenation of our willow lines, with a total of 5,915 willows planted this financial year, as well as 2,950 assorted native plants.

#### 4.1.2 Wainuiomata River

There is a limited flood protection scheme on the Wainuiomata River, comprising mainly of stopbanks and willows. While the stopbanks are in good condition, several willow lines are below the desired standard following the February 2004 flood event. The more recent July 2006 event has further exacerbated the situation. An extensive planting programme has been developed and is underway to bring our willow lines back up to an acceptable standard, but we are awaiting the design channel alignment, (which is currently being prepared), before this programme is fully implemented.

#### 4.1.3 Porirua Stream

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

#### 4.1.4 Stebbings and Seton Nossiter Dams

Council is the owner of two large flood detention dams in the Porirua catchment. These dams are used to lessen flood levels in the Porirua stream by holding back floodwaters and releasing them slowly through a throttled outlet. Stebbings dam (constructed 1994) is situated below Churton Park and is a purpose built earth dam. Seton Nossiter dam (originally constructed in 1948) is situated in Granada and uses the motorway and Mark Avenue earth fill embankments as the detention dam.

Comprehensive safety reviews were carried out in 2005 on both these dams. The reviews concluded that both dams may not meet NZSOLD guidelines for handling a Possible Maximum Flood (PMF) with the consequent risk of overtopping and failure of the dam structure. A workshop was held in May 2006, facilitated by local dam consultants Damwatch. The initial conclusion from the workshop is that, with the provision of adequate emergency and evacuation plans, both dams are unlikely to require expensive capital works to meet NZSOLD safety guidelines for high potential impact category dams. However, further hydrologic studies are necessary to confirm this finding and are planned for this financial year.

Both dams complied with all requirements at the time they were built. They continue to be very safe structures, which are well maintained and monitored regularly.

## 4.2 Kapiti

### 4.2.1 Otaki River

The annual asset inspection showed that infrastructural assets on the Otaki River are in good condition. The enormous amount of work done over previous years is now contributing to a system which is increasingly robust.

The planned work programme was completed on schedule, despite the wet winter, enabling the repair of all the extensive flood damage experienced in the January 2005 flood event. Work completed included:

- Repair of Tracey's debris fences.
- Completing the top up of the main Chrystalls rock lining.
- Repairs to the debris fences below Barretts.
- Planting of 8,800 willows.

### 4.2.2 Waikanae River

As with the Otaki River, the annual asset inspection showed that the Waikanae River flood protection assets are in good condition. Work completed this year included:

- Completion of the January 2005 flood damage rock works, including top-ups of rock lines and groynes at Sunny Glen, Edgewater Park, Kebbells Corner, Maple Lane, plus the Kebbells grade-control weir.
- Rock line extensions at the Kebbells grade-control weir left bank abutment and Maple Lane groyne 3.
- Channel widening along the left bank between Jim Cooke Park and Greenaway Road, with stockpiling of silts for future construction works Eg: Jim Cooke Park stopbank replacement.
- Reinstatement of the left bank edge adjacent to the Otaihanga Boating Club.

## 5. Peer review

Historically, annual peer reviews are undertaken of infrastructural assets on rivers in both the Western and Wairarapa Regions. The peer reviews provide an audit of maintenance standards and procedures and provide a useful forum for the exchange of knowledge and ideas. This year, the Western Region peer review was completed by Wairarapa staff and focussed on infrastructural assets on the Hutt River. The reviewers' comments were favourable and their report is included as **Attachment 3**.

The peer reviews in 2005/06 were completed by staff within the Catchment Management Division, from the Western and Wairarapa offices. Future peer reviews are likely to involve staff from Horizons Regional Council which is seen as providing benefit to both councils' asset management systems.

## 6. Communication

This report is written primarily for internal quality assurance purposes. No particular communication initiatives are proposed.

## 7. 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:** Asset management tasks completed in 2005/06 and proposed tasks for 2006/07
- Attachment 3:** Peer Review Report