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## **Report 01.784**

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Report to the Landcare Committee  
from Graeme Campbell, Project Manager, Flood Protection Group

### **Otaki River : Cross-section Survey and Gravel Analysis Results**

#### **1. Purpose**

To inform the Committee of the results of the Otaki River cross-section survey and gravel analysis.

#### **2. Background**

As part of the implementation of the Otaki Floodplain Management Plan (OFMP), a gravel survey was undertaken on the Otaki River from the mouth to midway through the Otaki Gorge. This survey was the third in a series. The first survey was undertaken in 1991 and the second in 1996. The results of the 1996 survey were reported to the Landcare Committee in September 1996 (Report No 96.334).

Gravel surveys had been undertaken prior to 1991 but the sections were not repeatable at a number of locations, making comparisons between this survey and those done earlier than 1991 difficult. Nevertheless, we have considered this earlier information to produce long-term trends where comparisons can be made.

The primary aims of the gravel survey and analysis are to:

- assess the gravel volume changes that have occurred within the river channel since the last survey, and
- determine appropriate levels of gravel extraction for the next five years.

Gravel extraction forms an important component of the Council's river management strategy.

### 3. **Summary of Survey Results**

The full results of the survey and analysis are reported in WRC Publication No. WRC/FPSA-G-01/60. This report is available to Committee members if you wish to study the information in more detail.

Our analysis indicates a loss of 100,000m<sup>3</sup> of gravel in the five-year period from 1996 to 2001. The figure is made up of an accumulation of 20,000m<sup>3</sup> of material in the river from the mouth to Upper Chrystalls (206,000m<sup>3</sup> of gravel has been extracted during the period, predominantly from that reach) and a net loss of material of 120,000m<sup>3</sup> from the reach above Upper Chrystalls. Extraction undertaken as part of the Upper Rahui project was from the berms rather than the river and is therefore not included in this analysis.

### 4. **Gravel Extraction Policies**

The current extraction policy for the Otaki River allows for extraction of 50,000m<sup>3</sup> of gravel per year. In the last five years the average extraction from the river has been 40,000m<sup>3</sup> per year excluding the Upper Rahui works. As explained earlier the Upper Rahui extraction was a separate exercise with the material taken from the berms rather than the river channel, and therefore should not be included in the gravel balance being considered here.

The survey has shown that the current extraction policy should be modified as below:

- Extraction of 40,000m<sup>3</sup> of gravel per year (down from 50,000m<sup>3</sup> per year) from the river mouth to the Chrystalls Bend reach.
- No significant quantities of gravel should be taken from the river channel in the reach from above Chrystalls Bend up to the mouth of the Otaki Gorge.
- Annual cross-section surveys of up to 10 should be used to direct where the extraction is undertaken within the Mouth to Chrystalls reach.

The Regional Council's Consents Management and Resource Policy groups will be advised of the results of the survey.

### 5. **Communication**

The results of the gravel survey will be communicated to the Friends of the Otaki River.

### 6. **Recommendations**

*That the Landcare Committee:*

- (1) *receive the report; and*
- (2) *note the contents.*

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**Attachment 1** : Otaki River Cross-section Locations

**Attachment 2** : Otaki River Gravel Volume Changes