



Waikanae River – Current Investigations 2012

Waikanae Sediment Transport Study

Greater Wellington has appointed Opus Consultants to carry out the Sediment Transport Study (STS).

The purpose of the STS is to examine the sediment processes in the river in detail, from sediment sources to the sea, so that we can develop a clear direction for how sediment in the river can best be managed.

This is required so that we can establish a holistic and sustainable river management strategy which will feed into our Global Resource Consents Application (35 year proposed duration) to be submitted in March next year.

To date, Opus has:

- Examined the available data and carried out detailed analysis
- Provided draft reports to Flood Protection for comment
- Presented at two stakeholder workshops

Preliminary option analysis has found:

- Continued extraction between SH1 and Greenaway Road is worthwhile for preventing gravel travelling downstream
- Fine material aggrading from Otaihanga to the mouth is controlled by the sea level, is self-limiting and not very significant in terms of flood risk. Also, this area would tend to fill in again quite quickly if extracted
- Removal of the gravel “front” that extends downstream as far as the boat ramp may be worthwhile and would probably be a one-off exercise

These preliminary findings agree with some recent modelling work completed by Flood Protection that confirms that the biggest “win” for reducing flood levels is to remove gravel from upstream of the scientific reserve, i.e. maintaining the required level of service

Waikanae FMP Review

The FMP review has been completed, and will shortly go through the final approvals process. The FMP will then be reprinted with a 2012 addendum of changes – this document will be available to anyone who wants a copy. The actions recommended by the review have been collected in a separate list that Flood Protection and other parties will work through.

of flood risk management as per the Waikanae River Floodplain Management Plan.

The next stage is to develop the preliminary options and decide on a preferred approach in November (probably a combination of options) to managing sediment in the river as a whole. Environmental effects will be considered and assessed during the consenting process. Sediment extraction is expected to continue to play an important part in river management.



CDEM-Funded Hydraulic Modelling

The GWRC Flood Protection department was fortunate to receive funding from the Ministry of Civil Defence and Emergency Management (CDEM) to assist with improving our hydraulic model of the Waikanae River and tributaries.

The purpose of the funding is to produce detailed flood maps of the river which are presented in a way which will allow emergency management staff to be able to determine the likely effects, and time to inundation etc when the river is at different stage levels. The maps will be able to show how a typical flood event develops over time. This will greatly assist the Wellington Region Emergency Management Office (WREMO) staff in preparing response plans in advance as well as at the time of a flood event.

The project has taken this opportunity to link all of the flood models currently held by GWRC and KCDC in the area, which include the Mangaone, Waimeha, and Ngarara Streams, the Mazengarb Drain and the Waikanae River. A schematic of the model network is shown below with the modelled network shown in red.

Currently, the majority of our flood maps have been produced using 1 dimensional hydraulic models, however this latest modelling uses digital elevation information across the whole floodplain and will be modelled in two dimensions, providing more accurate flood spreads and levels.

This project is due to be completed and incorporated into the WREMO response plans and procedures by June 2013.



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