

Determination of sources of contaminants in freshwater in the Horizons (Manawatu-Wanganui) Region

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Horizons is responsible for all aspects of water, air and soil management in the Manawatu-Wanganui region. We have sought to improve knowledge of relative contributions of freshwater contamination from various sources. This is key information for setting targeted policy in order to achieve desired environmental outcomes. To gain this level of understanding Horizons has upgraded its State of the Environment monitoring programme. This new programme monitors the relative inputs to rivers from major point source discharges (such as treated industrial waste and sewage effluent) and the water quality at State of the Environment monitoring sites on the same day.

The main aim of this programme is to improve knowledge of the impact of the major point source discharge consents in the immediate vicinity of the discharge. Then to take this new understanding a step further and look at cumulative effects of these discharges and the contribution of contaminant loading made by these discharges at downstream State of the Environment monitoring sites. This monitoring programme then enables calculation of relative inputs from point source discharges and by proxy the ability to determine the non-point sourced contribution.

The combined State of the Environment and Discharge Monitoring programme provides significant improvements over previous monitoring regimes. Previous in-river monitoring of discharges did not typically measure the impact of major discharges on the same day as State of the Environment monitoring, and generally discharges were monitored in the order of two or three times per year by Horizons. The upgraded monitoring programme provides a snapshot of water quality and the point source contribution to it once per month, providing 12 assessments per year across a range of flow and seasonal conditions.

The current discharge monitoring programme has been operating in the Manawatu, Owahanga and Whangaehu river catchments since July 2007 monitoring a total of 26 major discharges (20 of which occur in the Manawatu catchment) and was extended to include major discharges to the Rangitikei catchment in July 2008 adding a further 9 discharges to the programme. It is envisaged that this will be again extended to include the Whanganui catchment discharges (a further 5 discharges) in July 2009.

The data collected and analysed from this monitoring project has significantly increased the understanding of contaminant contributions and management issues in the Region. The oral presentation will provide an overview of the monitoring programme and present several key messages from the data analysis.