



## National Centre for Water Resources

*making every drop count*

*providing tools and information for the sustainable use of water*

- water allocation
- water quality
- environmental monitoring & modelling
- pollution control & prediction
- lake, wetland, & river restoration
- flow forecasting
- land-use effects
- wastewater treatment

### A powerful urban planning tool

NIWA's USC-2 (Urban Stormwater Contaminant) model predicts long-term accumulation of contaminants in estuaries, and can test the effects of alternative development strategies.

Recently, the model highlighted some tricky tradeoffs for the Upper Waitemata Harbour. One subcatchment, for example, not only supplies the most zinc to the middle main body of the harbour, but also a substantial sediment load which dilutes contaminants, pointing to a need to control contamination at its source. Such information helps councils plan for sustainable development.

We are also applying the model for the Middle Waitemata Harbour, and are assessing the feasibility of packaging it in a desktop tool for managers.

Funding has come from local and regional government, Transit New Zealand, and the Foundation for Research, Science & Technology, through the Envirolink Fund.

### New wetland provides hope for Rotorua lake

Lake Okaro in the Rotorua district is popular with water skiers, but experiences persistent blue-green algal blooms in most summers. The regional council, Environment Bay of Plenty, puts it in the second-worst lake water quality category. Now a wetland has been constructed to help improve water quality by filtering nutrients from farm run-off to the lake.

NIWA managed the wetland project throughout. It was built on land from a local farming family, the Birchalls, and the Rotorua District Council. Once mature, the wetland is expected to achieve roughly one-fifth of the nitrogen reduction target set in the community action plan for the lake.



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