



Urban Stormwater Quality

Program Leader: Dr Tim Fletcher (Monash University)

Project 4A: Development of integrated stormwater models

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This project will refine and extend the development of MUSIC (Model for Urban Stormwater Improvement Conceptualisation), and promote its use in industry. MUSIC's continued refinement will be based on further fundamental research undertaken in Project 4B. MUSIC will be the principal mechanism for dissemination of our research in the field of Urban Stormwater Quality.

In addition, this project will integrate MUSIC within the whole-of-catchment scale modelling capability that the CRC is building. Further development of MUSIC modules will offer some value to the larger scale models we plan to build for the rural focus catchments.

The project will also incorporate lifecycle cost analysis and ecologic impact prediction into MUSIC.

Duration: 3 years, starting January 2003. Total Budget: \$1.65 million

Project 4B: Predicting urban stormwater quality, treatment and impacts

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This project will improve the reliability of the MUSIC model through the provision of better algorithms and the acquisition of validation data. It will improve the prediction and understanding of urban stormwater quality (for example, association of pollutants with particle size), and incorporate predictions of some new pollutants (such as metals and pathogens). The project will develop the ability to reliably predict the performance of bioretention system performance, with some examination of the role of biofilms in pollutant removal. It will also seek to better predict the role of 'inter-event processes' in determining treatment performance.

This project is tightly coupled to Project 4A, and will deliver much of its outcomes via releases of enhanced versions of MUSIC.





Current Projects

2003-2006

There will be some work undertaken (in association with the CRC for Freshwater Ecology) on the ecologic consequences of urban stormwater management, and water sensitive urban design. The CRC for Freshwater Ecology is running a 'sister project' to this project (led by Chris Walsh, Monash University), focusing more heavily on the ecologic aspects.

Duration: 3 years, starting January 2003. Total Budget: \$3.26 million