

RESEARCH DIRECTIONS

Urban Geology

Dr Ian Wright from the School of Natural Sciences, together with Ku-ring-gai Council has been awarded a UWS Research Partnership grant to investigate the impact of public drainage systems on urban water streams and creeks.

'Throughout Australia billions of dollars are being invested in urban drainage and waterway management, often by local government' says Dr Wright. 'Concrete construction material widely used in urban areas (pipes, channels, culverts, drains, gutters) is leaching mineral contamination into water and we suspect strongly maybe responsible for the reduction of water quality and contributing to the degradation of ecosystems in urban streams. However research is needed to establish there is a cause - effect linkage. Our local government partner (Ku-ring-gai Council) is an Australian leader in sustainable urban waterway management and this research will contribute to improving drainage investment and will also raise the debate about industry standards for drainage construction.'

The research team will measure the impact of drainage materials on the water chemistry (particularly pH, electrical conductivity and major ionic components), using water samples from various environments across the Sydney Basin and urban areas within NSW. The team will explore the relationship between algal diatom communities and water physical and chemical components in urban and non-urban waterways. Algal diatoms are common and highly diverse organisms across all waterway types that are highly sensitive to any changes in water quality.



The research will have important ramifications for protecting the existing integrity of aquatic ecosystems that are exposed to any degree of urban or other development that uses concrete-based drainage materials.

Project Title: Urban geology - the impact of public drainage systems on urban water
Funding has been set at: \$20,000
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http://www.uws.edu.au/research/researchers/funding_opportunities/internal_research_grants