



## **A New Method for Protecting Urbanising Waterways: Urban Streamflow Impact Assessment**

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The urban stream syndrome is a common occurrence worldwide where waterways are degraded physically and ecologically following catchment urbanisation. Excess stormwater runoff from urban catchments is recognised as a primary driver of degradation. In addition, wastewater treatment plants can significantly increase discharge to waterways. To address this increase in flow volume, and altered flow pattern, requires evaluation and amelioration of the stormwater runoff. Until now, however, there has been no formal method to assist planners, stormwater designers and engineers, despite methods available for impacts such as those resulting from dams and storages. Drawing upon non-urban analogues we developed a method termed USIA: Urban Streamflow Impact Assessment. USIA has been developed to assist in the identification of waterway values (social, ecological and geomorphic) and explicitly link them to streamflow through the use of hydraulic metrics. USIA has been applied to two case studies in western Sydney, demonstrating the loss of values associated with 'business-as-usual' approaches to stormwater management, and highlighting opportunities for a range of future scenarios. USIA can be applied across urbanising and urban catchments to provide explicit input to controls on urban streamflows (what flows to keep out of the waterway), informing urban planning and drainage design.