



Managing Pollution in Stormwater Networks – A Decision Support Tool

Stephen Marshall¹, Daniel MacMahon², Simon Sharp², Assoc Professor Vincent Pettigrove², Dr David Sharley¹

¹Bio2Lab, Diamond Creek, Australia, ²Centre for Aquatic Pollution Identification and Management (CAPIM), The University of Melbourne, 3010

As water sensitive cities increasingly become water supply catchments, reducing persistent contaminants in stormwater will become critical to their sustainability and livability. This is a challenging task which has traditionally been neglected for several reasons: policy emphasis on nutrient reductions in line with current State environmental protection policies; absence of regulation requiring management of persistent pollutants. Despite these challenges, several recent pollution tracking programs supported by Melbourne Water, EPA and local councils have made substantial progress in reducing pollution from industrial areas. These programs have been successful because they identified a small number of major polluters, allowing authorities to target education and enforcement activities accordingly.

We present an approach which can be used to prioritize locations for pollution reduction action based on contaminant distributions combined with a range of catchment attributes such as land use and demographics. The models we have developed allow prediction of stormwater pollution risk in urban catchments based on persistent contaminants which are not included in existing stormwater models. This allows active management of pollution issues emerging within a catchment, leading to more timely infrastructure management and potentially advance warning of pollution events. This protects the function of WSUD assets, reduces maintenance costs and can extend their operational lifespan.