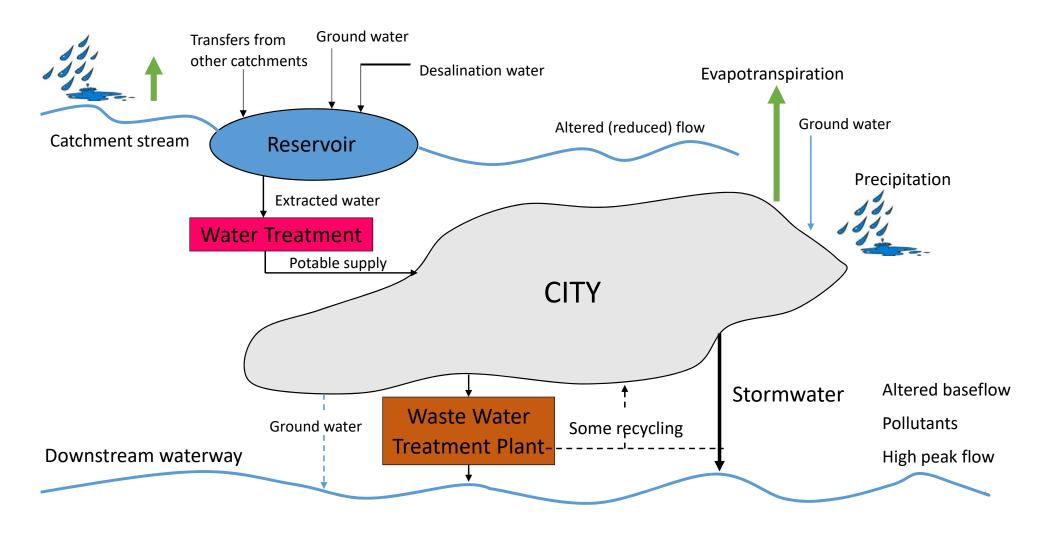
Triple Bottom Line analysis of stormwater use in a city

David Ebbs

Current state – An open system



WSUD - Canadian Lakes (Ballarat)





Rainwater tank



Swale



Wetland



Sediment pond



Buffer strip



Bioretention swale

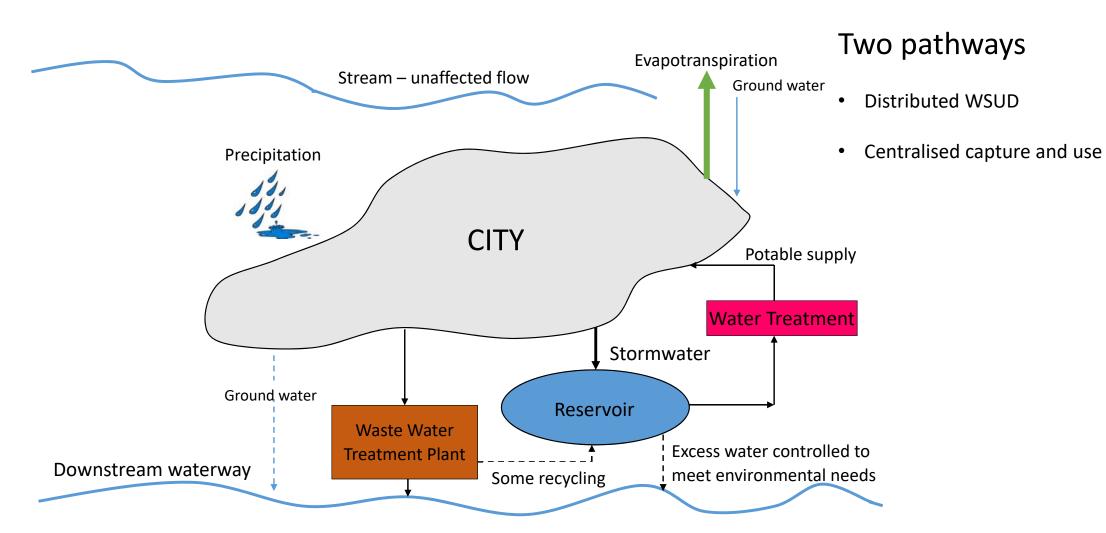
- Reduces peak flows
- Removes pollutants
- Reduces overall flow
- Substitutes for potable supply
- Improves amenity

Implement this widely enough and approach a Water Sensitive City

- Storage is an issue
- Decentralised systems have management concerns
- 3rd pipe schemes require dual infrastructure

<5% water use is stormwater

Potential – A closed system



Methods Why isn't Available hydrologic models stormwater used Review (eg: MUSIC, Source) as supply? Spatial and temporal data on **Systems Model** climate, population and land use Hydrologic Model of Ballarat Question: Is a closed water Distributed and centralised city feasible? option scenarios Representative Representative Ballarat case study for proof **Economic Analysis Social Analysis** of concept Representative **Environmental Analysis** Generalised outcomes and method for other Cost data Social data Pre-development cities. eg: Statutory role of authority streamflow regimes Outcome of 'systems' model: Method: TBL analysis using Comparative value analysis for stormwater use. standard modelling