



Healing Fractured Waters in our Urban Environments

Great Lakes Commission Annual Meeting,
September 29, 2015

The Panel

- Moderator: Bill Carr, Province of Ontario
- Presenters:
 - John Jackson, Greater Lakes Project
 - Christine Zimmer, Credit Valley Conservation Authority
 - Harriet Festing, Center for Neighborhood Technology
 - Aaron Koch, City of Chicago

The Fractured Water Cycle: The Problem - The Solutions

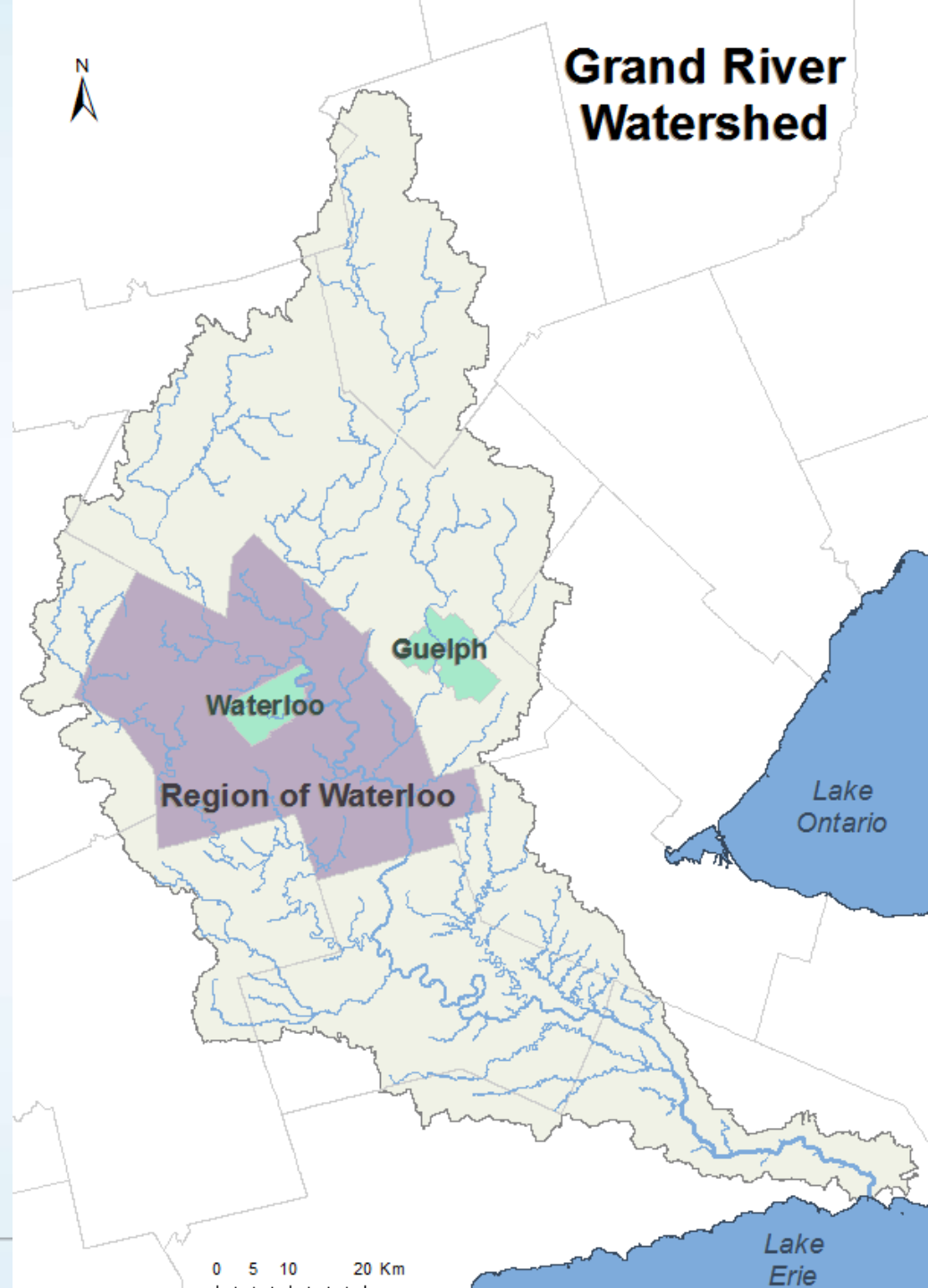
John Jackson,
Greater Lakes Project Manager

The Greater Lakes Project

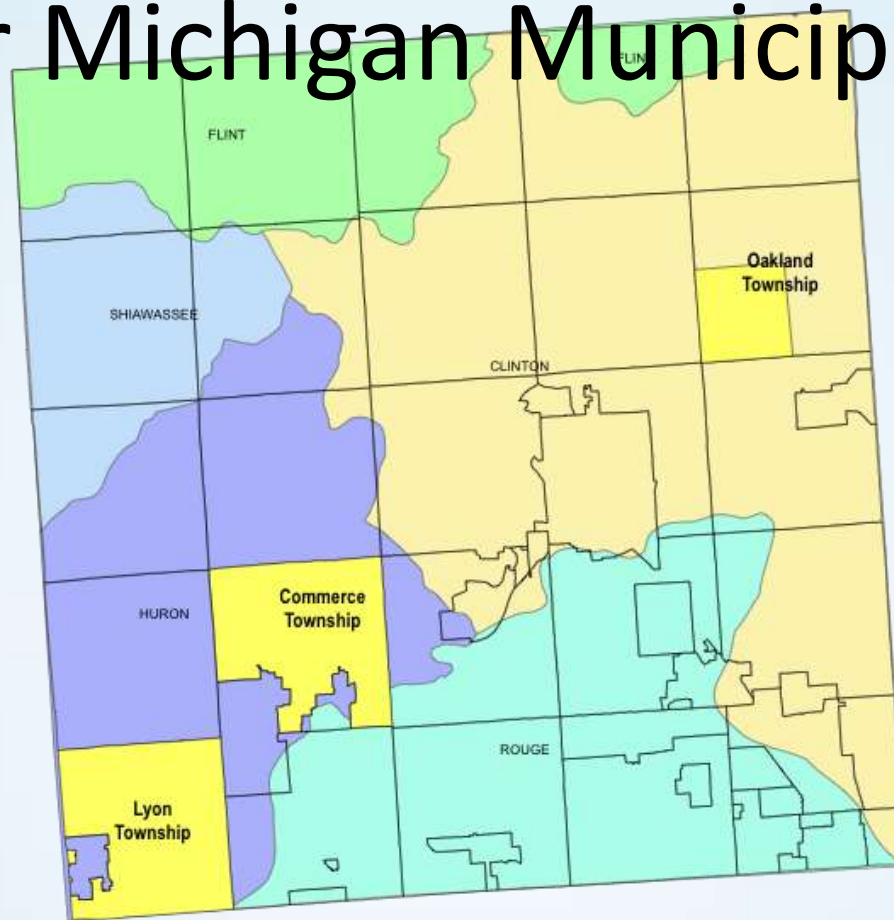


Great Lakes
Protection Fund

Our Ontario Municipalities



Our Michigan Municipalities



Participating U.S. Communities
Oakland County, Michigan

Note:
Only the southwest portion of
Oakland Township will be studied
under this project.



The Problem

In urban areas, we have fractured water systems that disrupt natural water flows.

The Natural Water Cycle

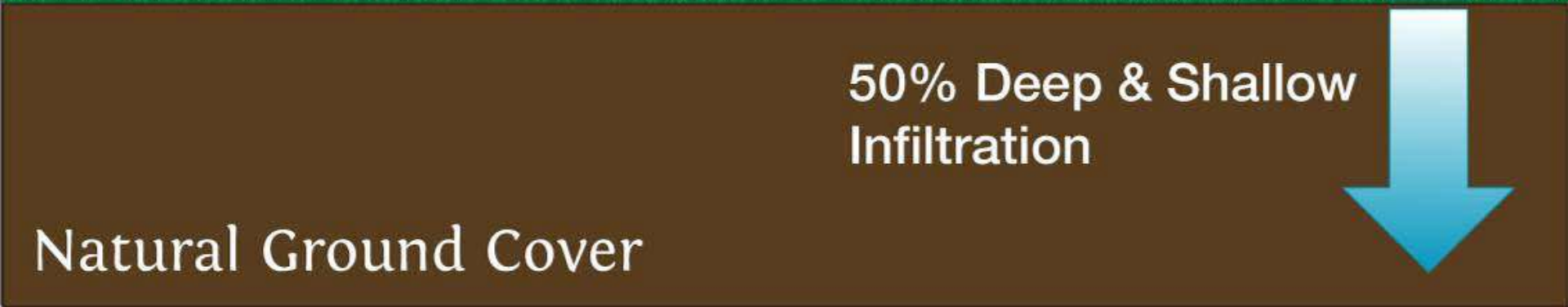
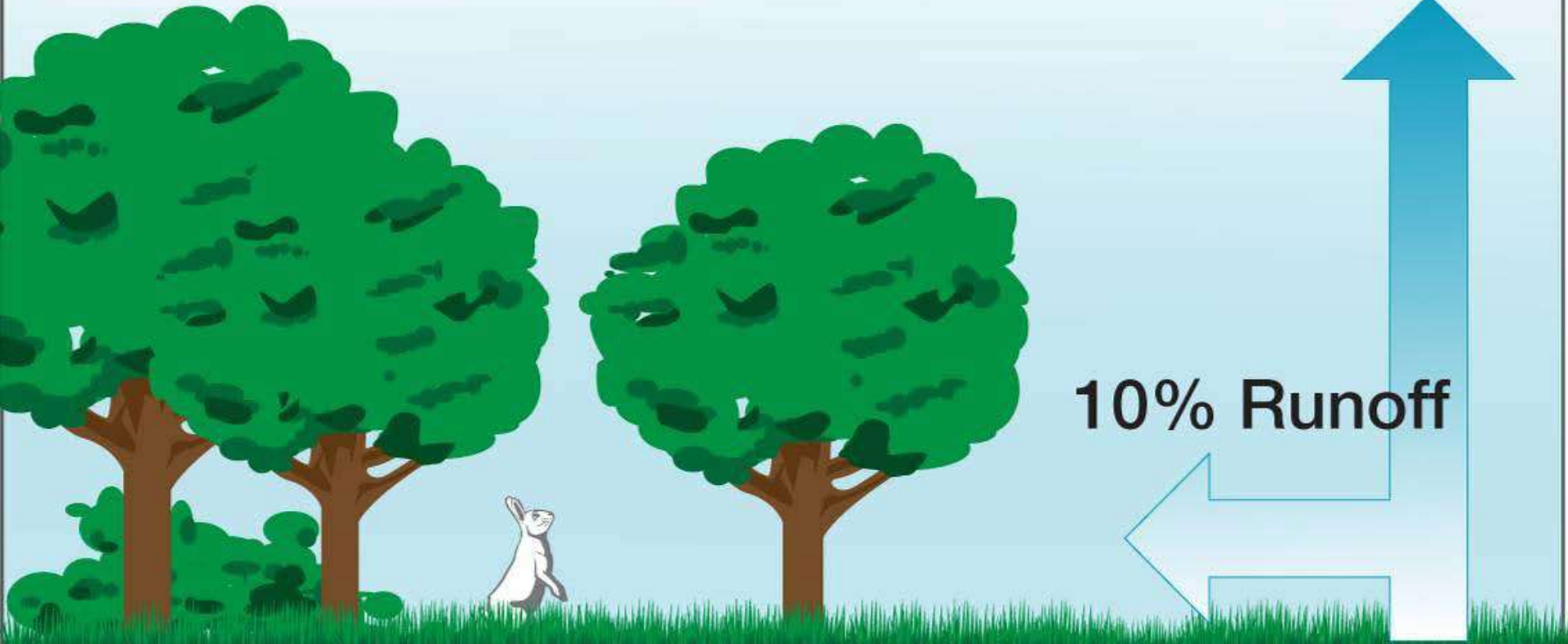


40% Evapotranspiration

10% Runoff

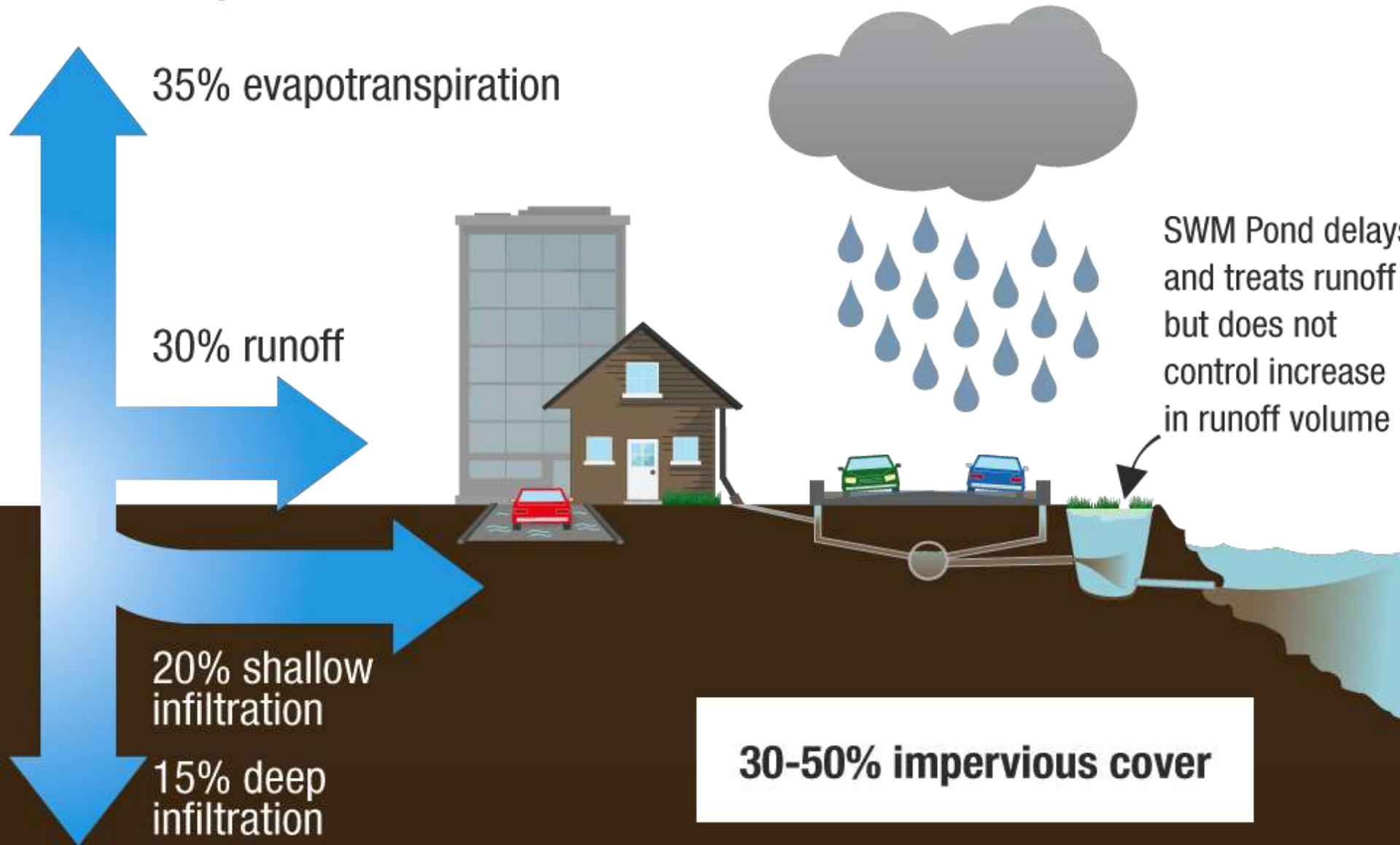
50% Deep & Shallow Infiltration

Natural Ground Cover

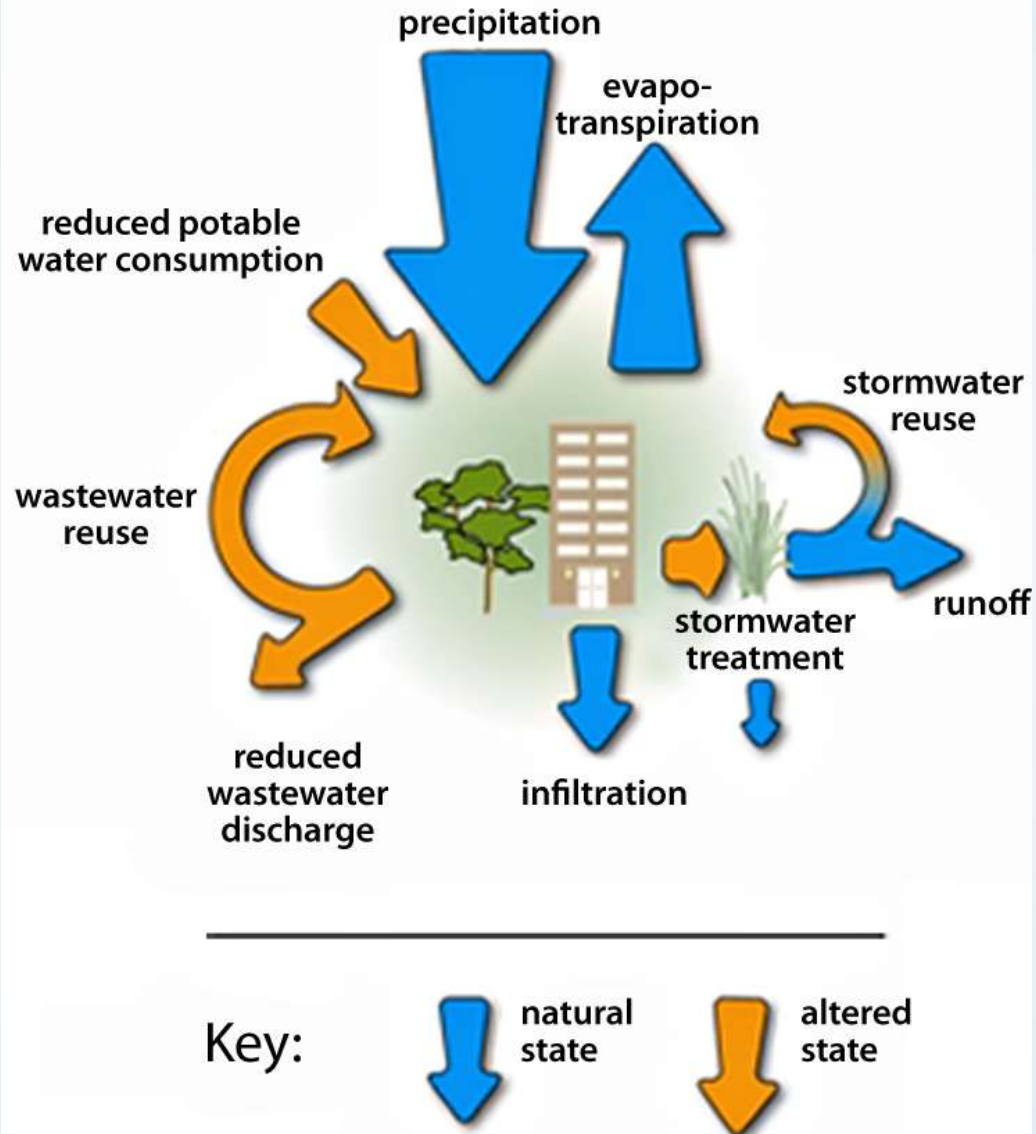


Urban Hydrology

Typical development: Stormwater management using End of Pipe SWM Pond

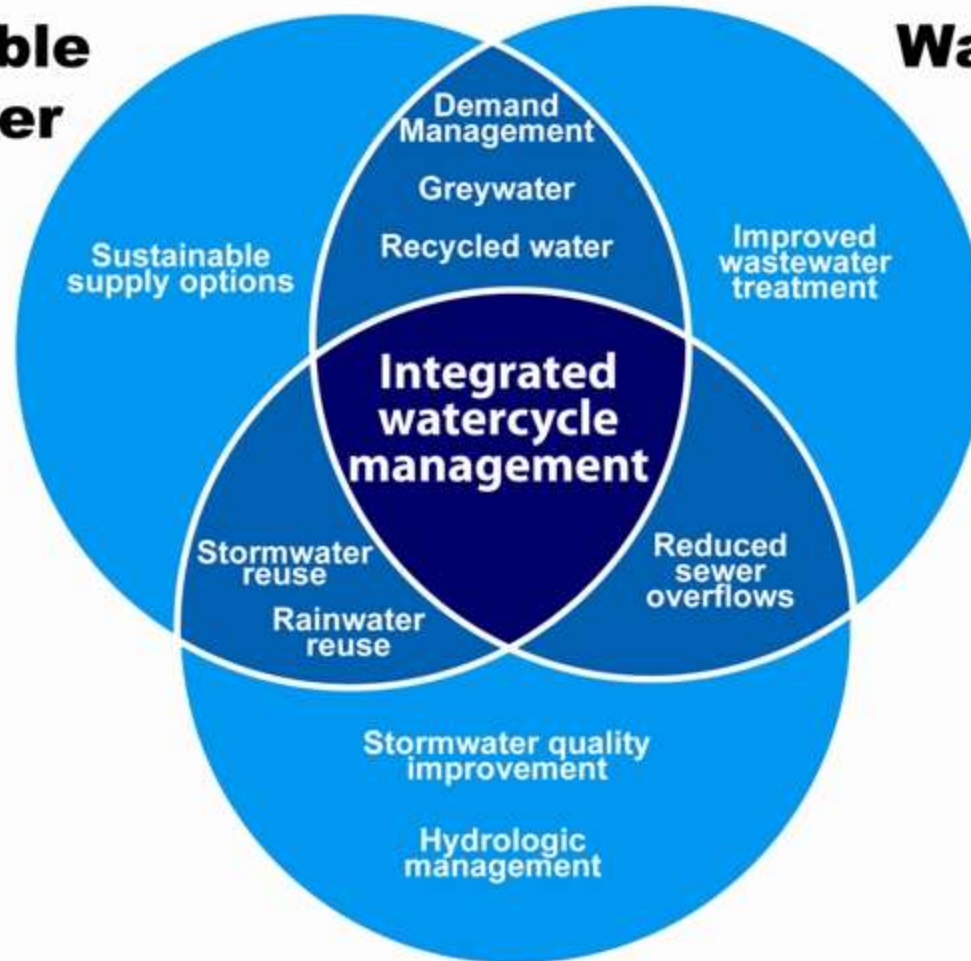


Reconnecting the Water Cycle



**Potable
Water**

Wastewater



Stormwater



Source: Australian Government National Water Commission

Take Actions towards Integrated Water Management

- Set up strong source water protection programs
- Engage in water efficiency and conservation
- Set up waste water reuse systems
- Use drinking-water quality water only for uses that require that level of purity
- Reduce impervious surfaces so that water can infiltrate into the ground

Action (cont.)

- Treat green and grey infrastructure as one system
- Set up cistern and rainbarrel systems to capture stormwater for indoor and outdoor uses