

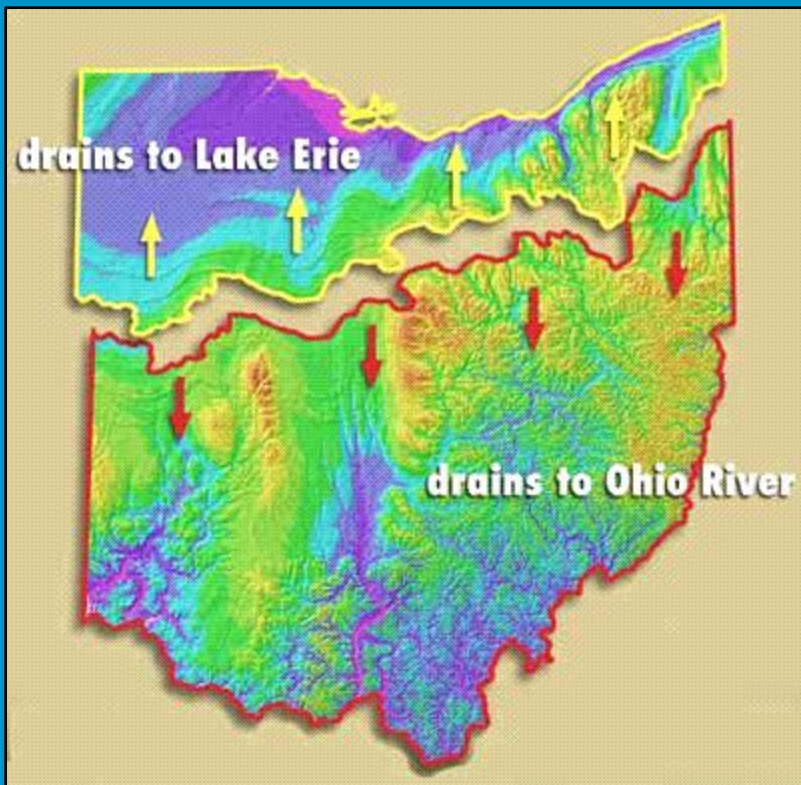
Stormwater Overview

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Stormwater Overview: What is a watershed?



Urbanization

% Imperviousness	Impact
2%	No detrimental effect, riparian
7-8%	Buffer remains sound
10%	Stream begins to erode
18%	Aquatic diversity declines
40%	Active stream widening
60%	Massive erosion, natural channel cannot be maintained

SOURCE: *Watershed Protection Techniques, Vol. No 3, Fall 1994. The Importance of Imperviousness*



Watershed	Impervious Cover (1994)
Euclid Creek	32.6%
Cuyahoga River	31.2%
Rocky River	25.6%
Chagrin River	21.1%
Black River	9.6%
Ashtabula River	8.0 %
Grand River	4.1%

SOURCE: *Ohio Nonpoint Pollution Control Program Plan*



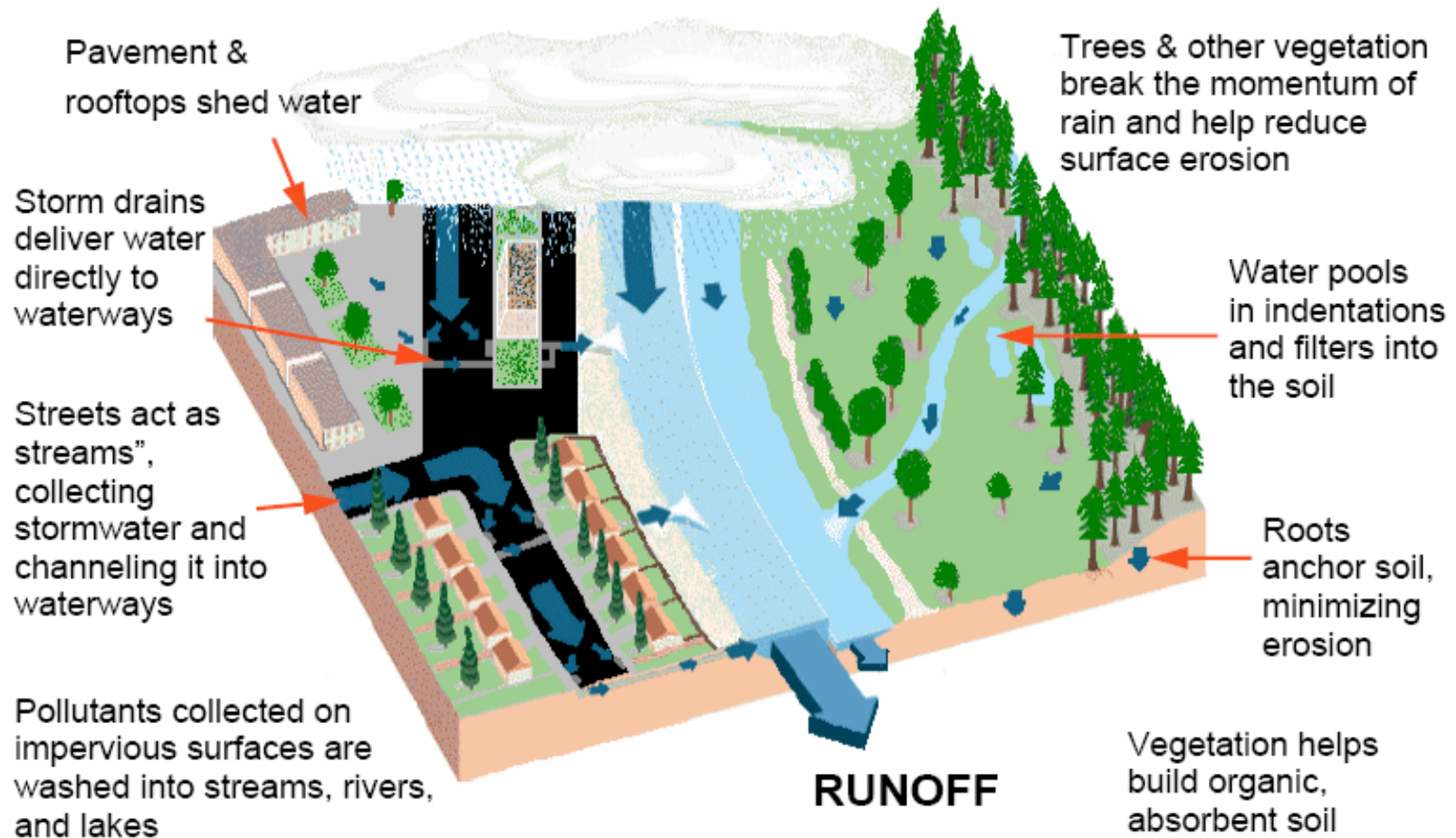
Stormwater

DEVELOPED LANDS

Rain pours more quickly off of city and suburban landscapes, which have high levels of impervious cover

NATURAL LANDS

Trees, brush, and soil help soak up rain and slow runoff in undeveloped landscapes



Stormwater Rules

- Municipal Separate Storm Sewer System (MS4)
- Federal Clean Water Act
 - Regulates MS4s in urbanized areas
 - NPDES permit required to discharge from MS4
- State of Ohio
 - ORC 6111 and OAC 3745-39



Stormwater Rules

- Communities (MS4s) in urbanized areas must implement six minimum control measures
 1. Public Education & Outreach
 2. Public Involvement & Participation
 3. Illicit Discharge Detection & Elimination
 4. Construction Site Runoff Control
 5. Post-Construction Storm Water Management
 6. Pollution Prevention & Good Housekeeping for Municipal Operations



Stormwater Rules

- Communities (MS4s) in urbanized areas
 - develop and enforce ordinances or resolutions
 - ensure SCM function
 - maintain publicly-owned SCMs
- Landowners
 - maintain privately-owned SCMs

