

Raindrops Keep Falling on My Head – Managing KY's MS4 Program

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What Is an MS4?

A municipal separate storm sewer system (MS4) is:

A conveyance or system of conveyances, ***including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains*** owned by a state, city, town, or other public entity that discharges to waters of the Commonwealth and is:

- Designed or used for collecting or conveying storm water
- Not a combined sewer
- Not part of a publicly owned treatment works (POTW)

Municipal Storm Water Categories

Large MS4	Medium MS4	Small MS4
250,000+Population	100,000+ Population	<100,000 Population
Louisville & Jefferson County MSD Lexington & Fayette County LFUCG		103 Small Communities



History of the Storm Water Program

1972

CWA

Requires

NPDES

Permits

1983

KY

Issues

KPDES

Permits

1987

CWA

Includes

Industrial

SW

1992

Phase I

SW

Program

Begins

2003

Phase II

SW

Program

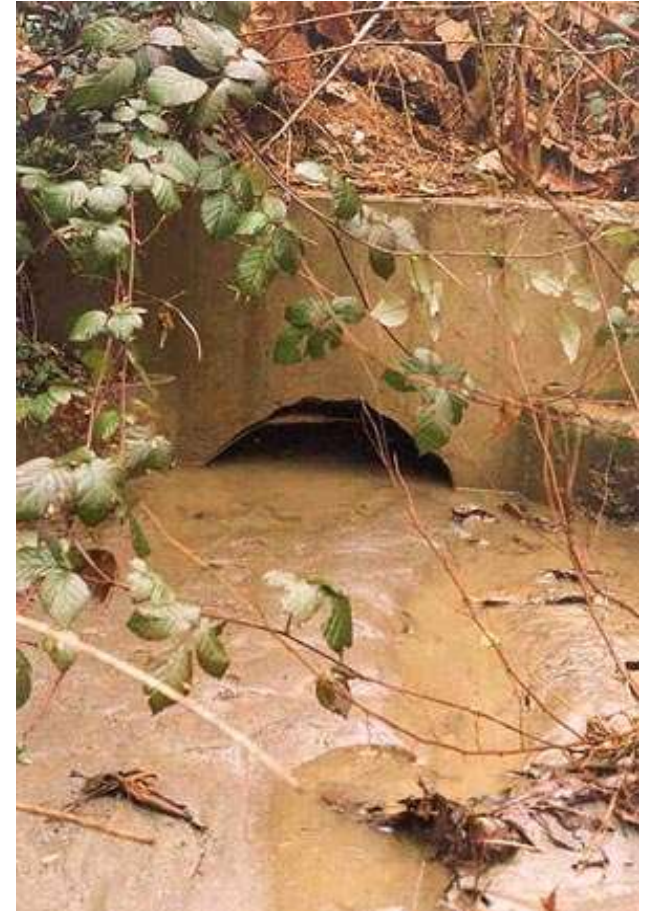
Begins

Six Minimum Controls for Phase II

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff
- Post-Construction Stormwater Management in New Development and Redevelopment
- Good Housekeeping and Pollution Prevention at Municipal Operations

Why ?

- Sediment runoff is polluting KY's rivers, lakes, & streams
- Preventing soil erosion and sediment runoff is not difficult
- Construction sites are often a significant source of sediment
- Stormwater regulations require erosion prevention & sediment control for all construction sites one acre or larger

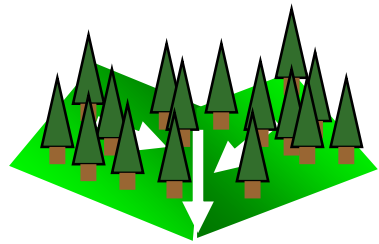




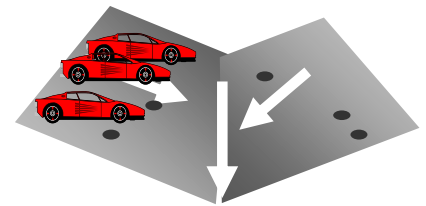


10% impervious cover

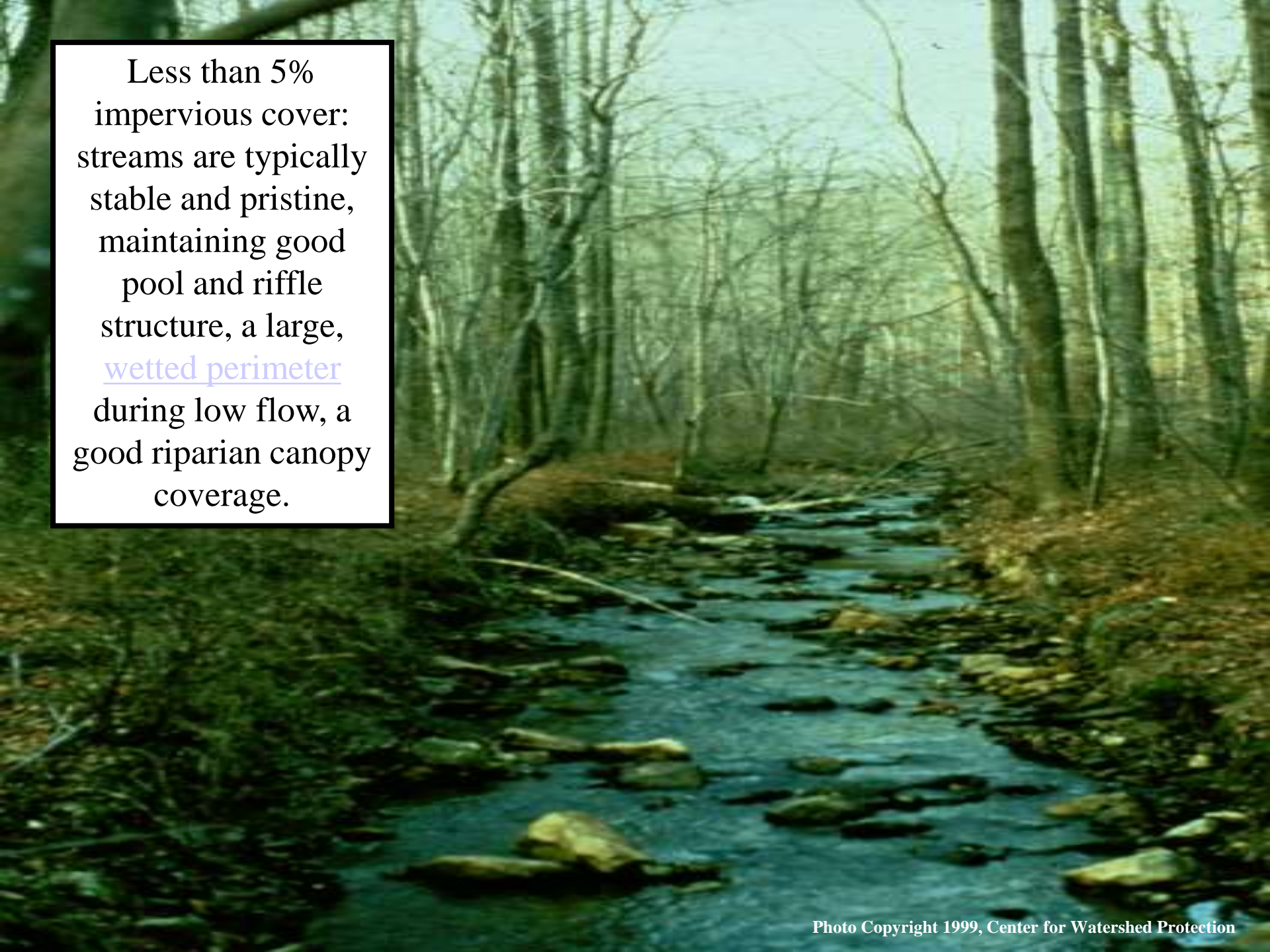
- Measurable impacts on biota
- Significant impacts to stream banks, channel, erosion, etc.




Impervious cover



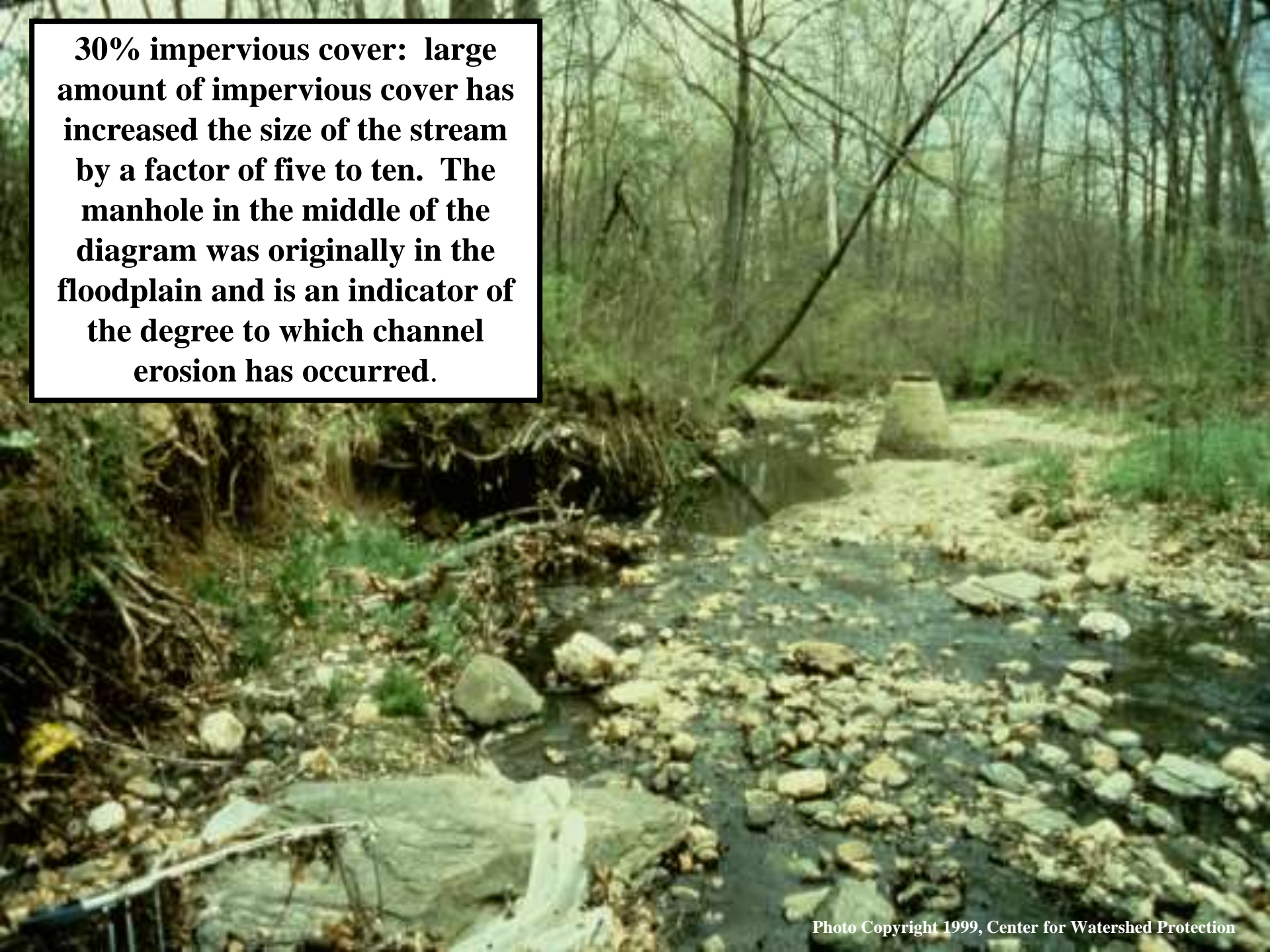
Less than 5%
impervious cover:
streams are typically
stable and pristine,
maintaining good
pool and riffle
structure, a large,
wetted perimeter
during low flow, a
good riparian canopy
coverage.





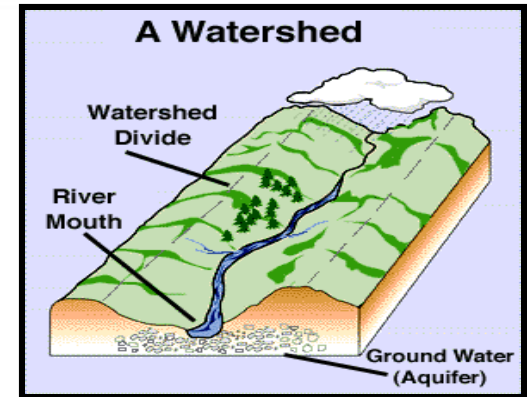
20% impervious
cover: decreased
substrate quality due
to more material
"flushing" through
the system.

30% impervious cover: large amount of impervious cover has increased the size of the stream by a factor of five to ten. The manhole in the middle of the diagram was originally in the floodplain and is an indicator of the degree to which channel erosion has occurred.



Watershed issues

- Drinking water supplies
- Flooding
- Fishing and swimming
- Biodiversity
- Esthetics and quality of life



Municipal MS4 Storm Water Permitting



History of KY's Phase II MS4 Permits

- 1st Permit issued became effective in January 2003. Basic permit – included the six minimum control measures and basic requirements.
- 2nd Permit issued became effective on April 1, 2010. Program is becoming more sophisticated and knowledge is growing – permit is specific in areas while still providing needed flexibility.
- 3rd Permit – is waiting to be public noticed. KDOW has maintained the specificity of the 2nd permit but we held stakeholder meetings with MS4s, consultants, and other DOW staff to make a permit that is better tailored to the MS4s in KY.



Major Changes to the Draft Permit

- MCM #3 Illicit Discharge Detection and Elimination (IDDE) - the permittee is now required to have a written plan to address illicit discharges, including illegal dumping.
- MCM #3 IDDE – the permittee is required to expand the map to include the MS4 system (owned and/or operated by the community), including catch basins, pipes, ditches, flood control facilities (retention/detention ponds), post-construction water quality BMPs and private post-construction water quality BMPs.
- Files from Google Earth (.kmz/.kml files) can be included to complete the required mapping of the MS4 system.
- MCM #6 Pollution Prevention/Good Housekeeping for Municipal Operations – the permittee is required to have a written Operation and Maintenance Plan.
- The permittee is required to implement an appropriate monitoring plan that evaluates the effectiveness of the MS4 program and provides feedback to the permittee to change or improve the stormwater quality management program.



For Additional Information

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