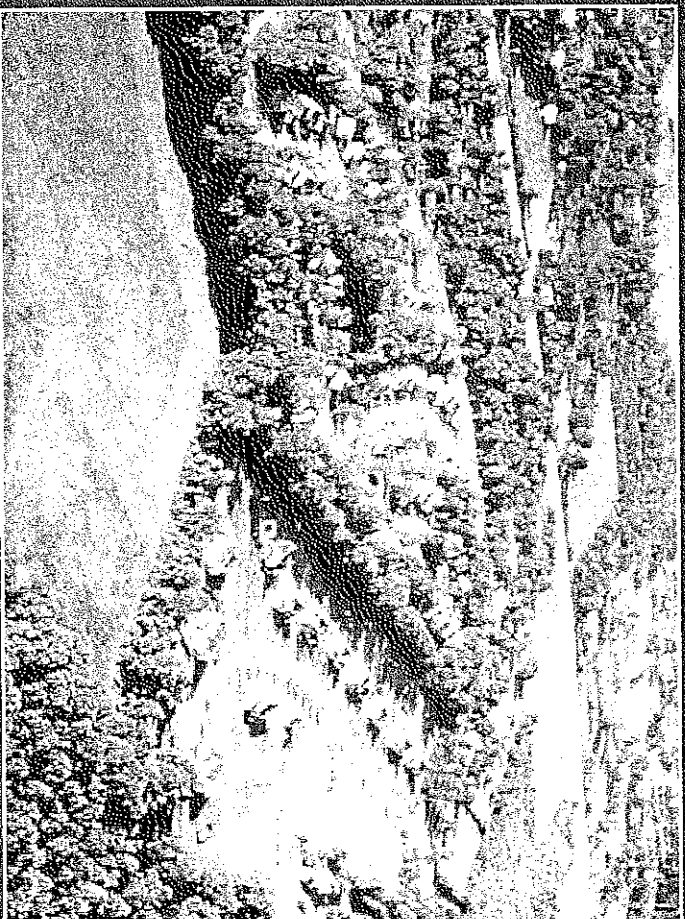
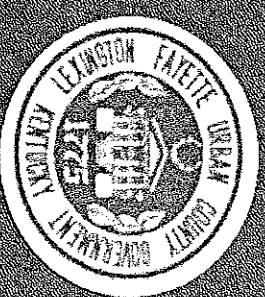


Land Use and Watershed Management Impacts on Stormwater Runoff



Charles Martin, P.E.
Division of Water Quality



Presentation for the Urban County Council
November 15, 2011

7 PRESENTATION OUTLINE

1. Causes and Impacts of Stormwater Pollution
2. LFUCG's Stormwater Quality Program Recent and Upcoming Changes
3. Future Regulation Changes

Causes of stormwater pollution

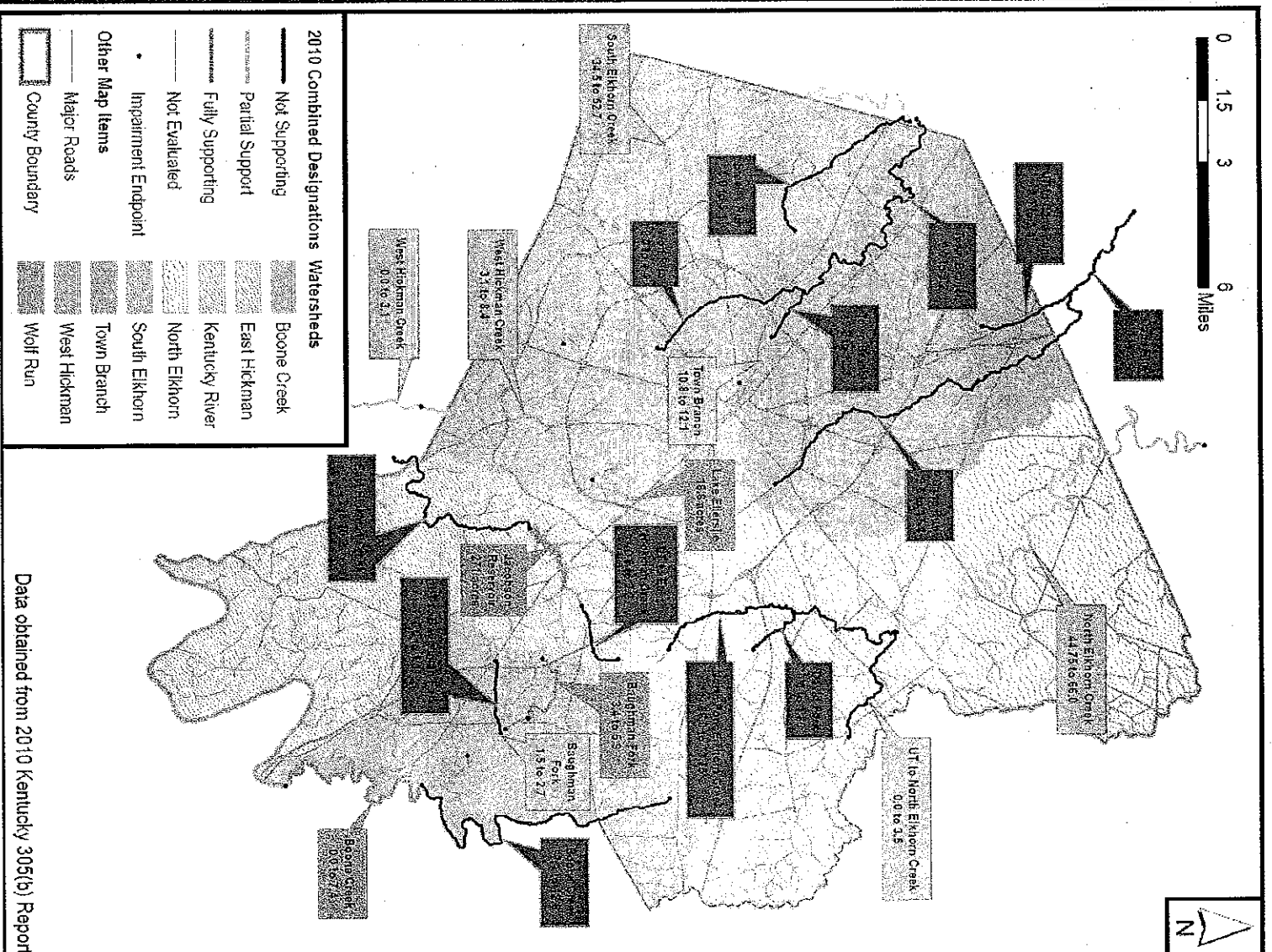
- Sediment: construction sites, stream & ditch bank erosion, farm land erosion
- Bacteria: sewer line leaks/breaks and connections, pet waste, livestock, birds and rodents
- Nutrients: lawn and farm fertilizer, landscaped areas, sewage, organic matter
- Oil & Grease, Hydrocarbons: vehicles, roadways
- Heavy Metals: vehicles, industry, rooftops
- Trash/Debris

Impacts of polluted stormwater

- **Poor water quality**
 - Creeks green with algae, or brown with sediment
 - Health threats from bacteria
- **Lower quality of life**
 - No wading, canoeing, fishing
 - Contact with water unhealthy
 - Blockages, flooding
- **Regulatory violations**
 - KDOW MS4 Stormwater Permit
 - Consent Decree



8 Fayette County watersheds, showing impaired waters



LFJCG's Stormwater Program Recent Changes

81

Text Revisions to the Subdivision Regulations (2010)

- Added definitions for Green Infrastructure and Low Impact Development
- Added provision that allows alternative designs that use LID (removed potential barriers)

Required by Consent Decree

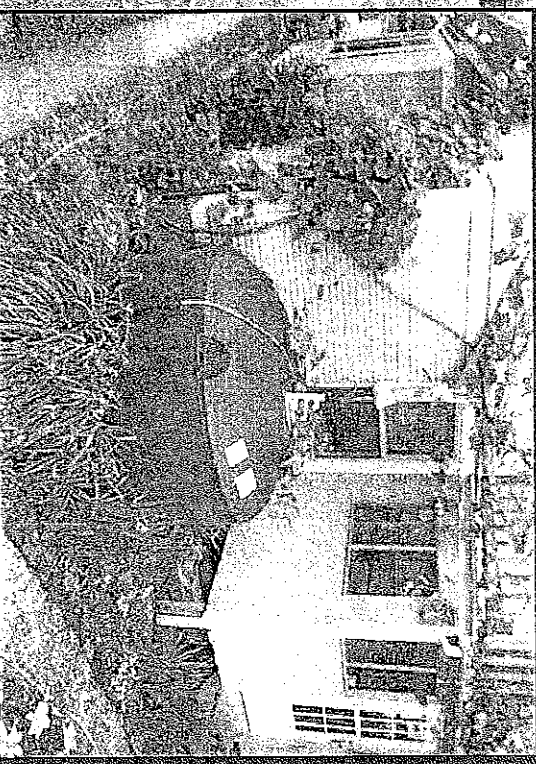
What is Low Impact Development & Green Infrastructure?

Mimics stormwater runoff patterns of pre-development

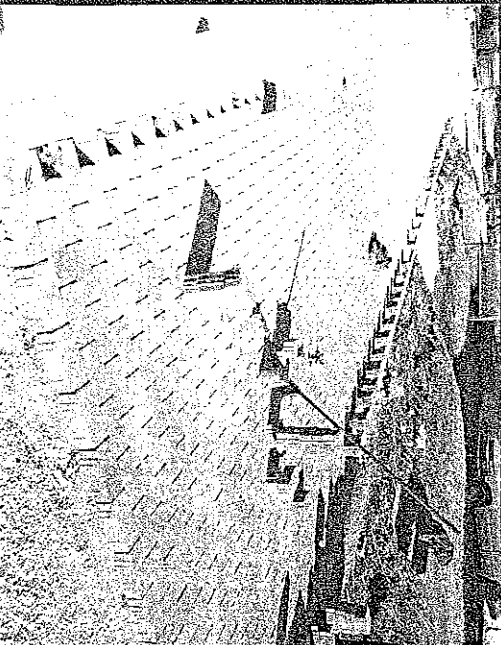
EVAPO-TRANSPIRATE



RE-USE



INFILTRATE



Upcoming Changes

1. Develop LID Guidelines by
September 1, 2012

Upcoming Changes

84

2. Re-evaluate Design Standards, Regulations, and Procedures by January 31, 2013

- General revisions/clarifications
- New LID BMPs

Upcoming Changes

3. New MS4 Permit issued in September 2014
 - May require new rule changes per EPA