

North Carolina Division of Water Quality



Wetlands and Stormwater Branch

Environmental Compliance Assistance Workshop
NC Hospitals and Healthcare Facilities
September 14, 2007

What is a Watershed?



Sources of Pollution

Agriculture



Stormwater



Point Sources



Construction



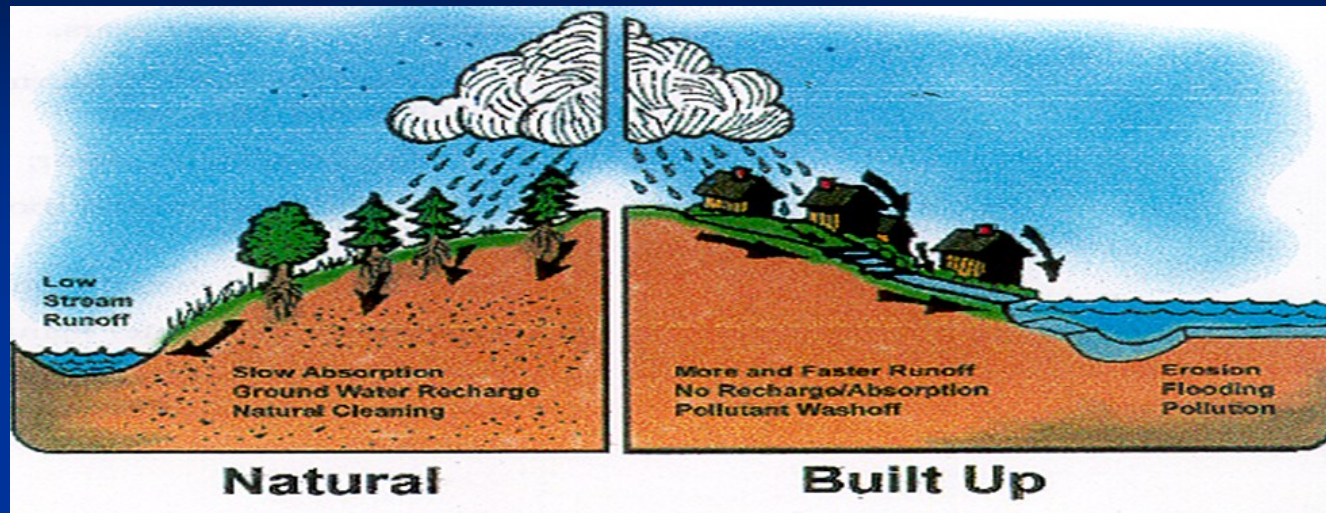
Marinas



Atmospheric Depos



Why Be Concerned About Stormwater



- Increased Imperviousness
- Increased Runoff
- Increased Pollutants
- Impacts to Streambanks
- Erosion/Sedimentation



Why be Concerned about Stormwater?



- Declining water quality



- Increasing demand for clean water



- *Urbanization:*
 - Population doubling every 50 years
 - 88% increase in urban area from 1982-1997 (USDA-NRCS)

Stormwater Overview – State SW

Coastal SW



401 Cert



NSW



HQW/ORW

Water Supply



Stormwater Overview - NPDES



Federal Stormwater
Industrial Programs

1990



Stormwater Overview – Municipal



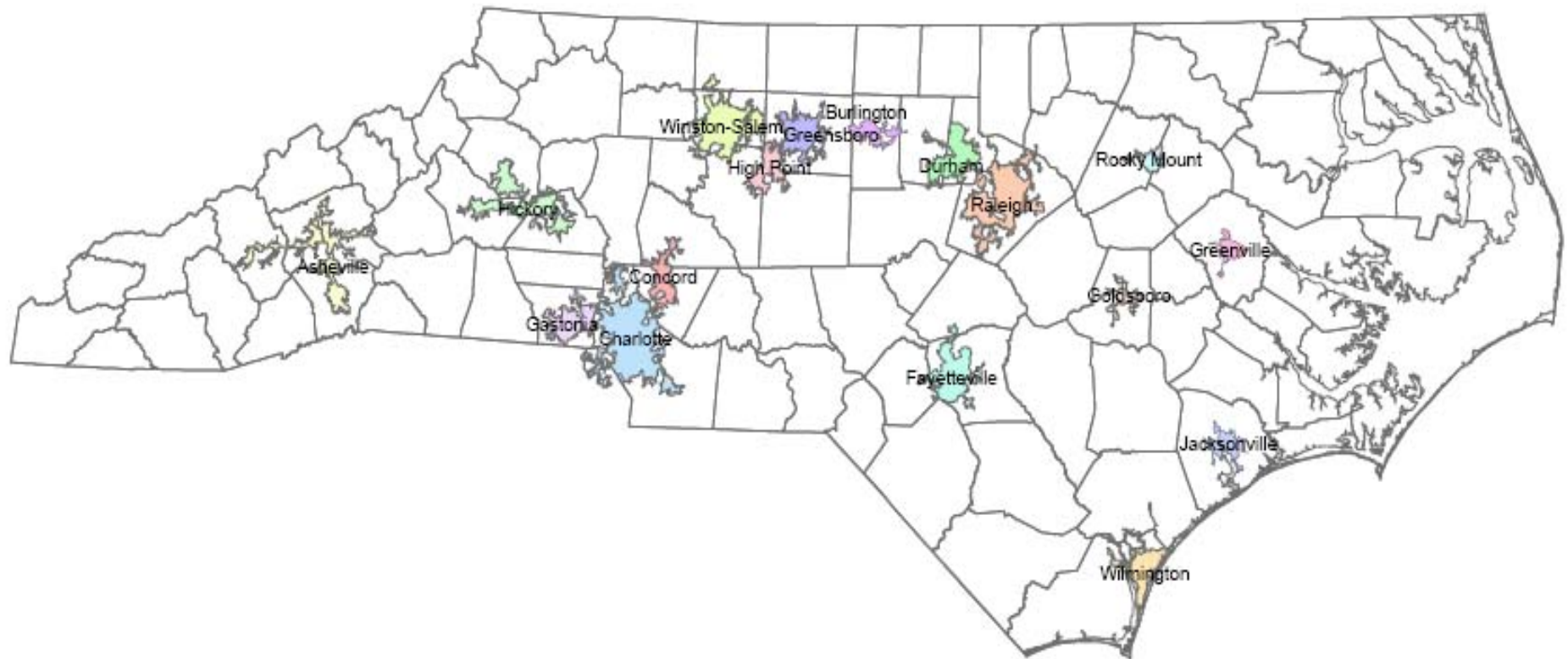
Federal Stormwater
Municipal

1990, 1999



Urbanized Areas from Year 2000 Federal Census

Municipal Separate Storm Sewer Systems (MS4s) in these areas were automatically designated by the U.S. EPA's Phase II Regulations



Minimum Control Elements

- Public Education and Outreach
- Public Involvement/Participation
- Illicit Discharge Detection & Elimination
- Construction Site Runoff Control
- Post-construction Stormwater Management
- Pollution Prevention/Good Housekeeping

Illicit Discharge Program

- Program to Detect and Remove
- Mapping of Storm Sewer System
- Reporting Mechanism and Education



Construction Site Runoff Control

- Maintain Sediment Onsite
- Condition Met By State/Local Program



Post Construction Runoff Control

- New development and redevelopment
- 1-year / 24-hour storm control
- 85% average annual TSS removal
- Operation & maintenance of BMPs
- Specific requirements for Class SA, Tr, NSW

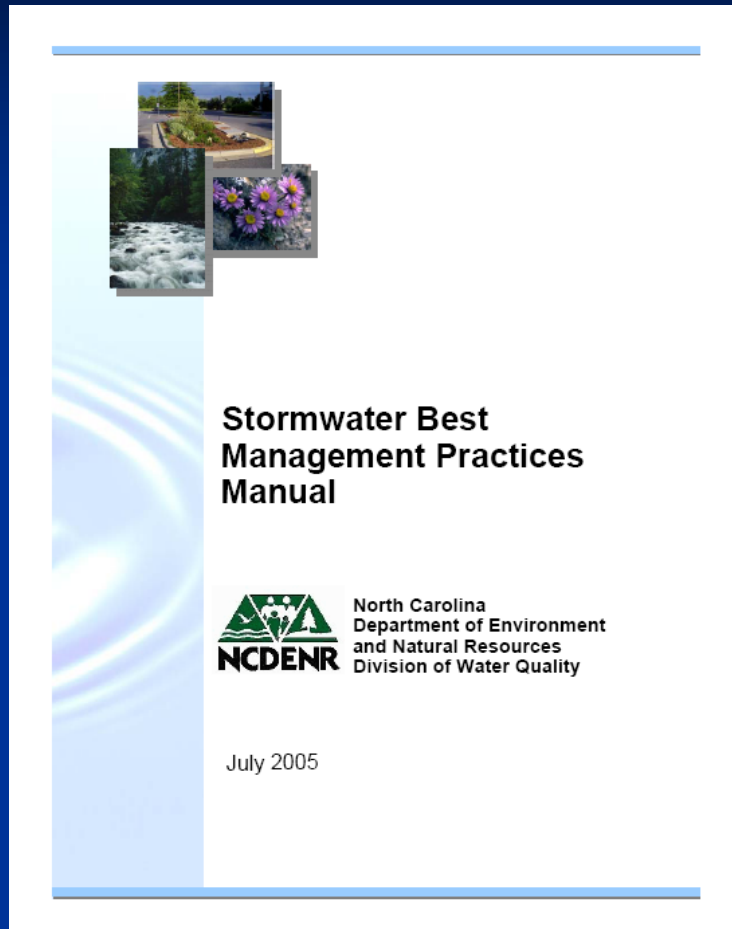


Pollution Prevention/ Good Housekeeping

- Look at Source Reduction Measures
- Concentration on Municipal Activities
- Maintenance Areas, etc.
- Local Ordinances



Stormwater Resources



*Phase II Stormwater Model Ordinance (DRAFT 7-1-2005) by Kane and Whisnant
This draft is near-final and is intended for presentation to the EMC Water Quality Committee.*

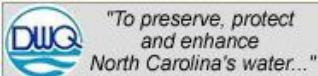
Phase II Stormwater Model Ordinance for North Carolina

By Betsy Kane and Richard Whisnant
UNC School of Government

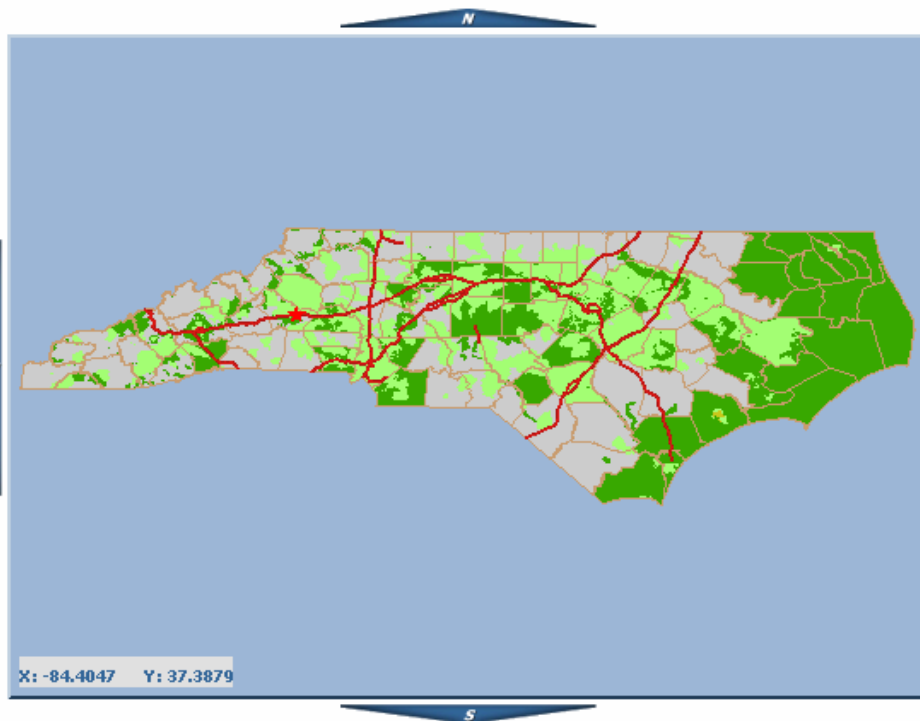


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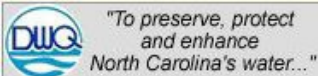


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City : <input type="text"/>		
State : NC		
Zip Code : <input type="text"/>		
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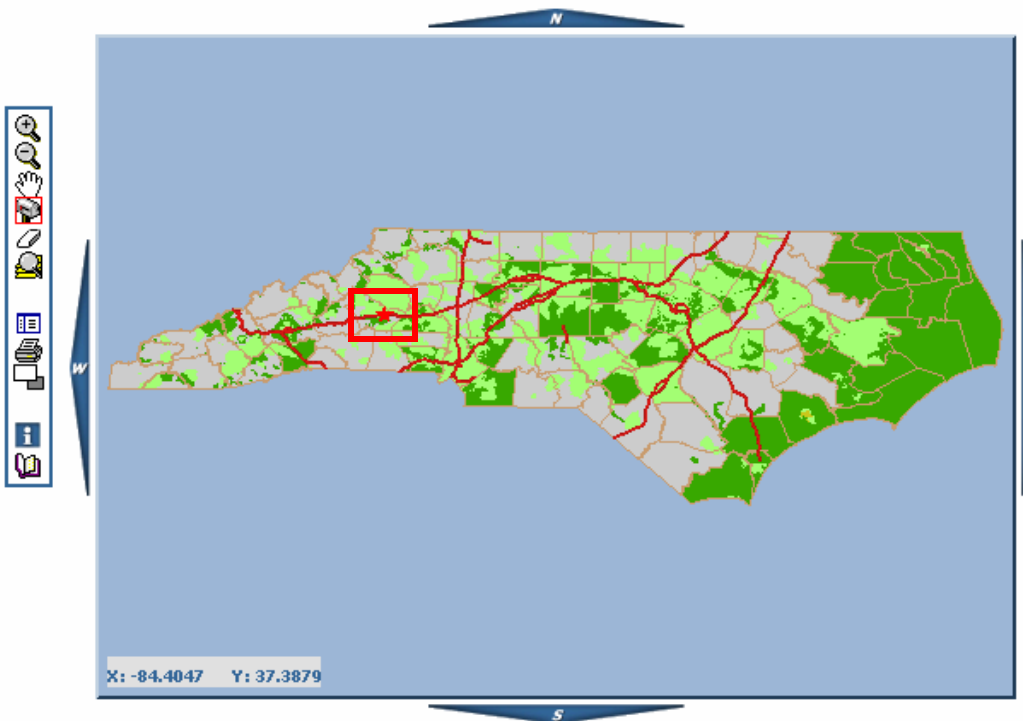


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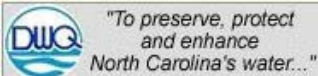


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Address	Lat/Long	Results
Permitting :	Local	
Type:	Water Supply Watershed	
Basis:	WS-IV Protected Area	
Notes:	Satisfies Phase II Requirements	
Contact:	View local contacts list	
County:	BURKE	
DENR Region:	Asheville	



http://207.192....

- General Hydrography (Arcs)
- General Hydrography (Polys)
- Municipal Boundaries
- Stormwater Jurisdiction
 - City in Phase II tipped county
 - Coastal County
 - Countywide
 - Exempt Phase II City
 - Exempt Phase II City ETJ
 - Freshwater HQW
 - HQWORW SB SC & Freshwater
 - High Quality or Outstanding
 - Phase II MSI
 - NSW City
 - NSW County
 - None, Inc. area
 - None, Uninc. area
 - Phase II City
 - Phase II City & State Stormwater
 - Phase II City ETJ
 - Phase II City & HQW
 - Phase II City & NSW City
 - Phase II Tipped County
 - Randleman Lake Watershed
 - Urbanized Area
 - Water Supply Watershed
 - SA-Shellfish Waters

Done

Information Sources

Division of Water Quality
Stormwater Permitting Unit

<http://h2o.enr.state.nc.us/su/stormwater.html>

State Stormwater Education

<http://www.ncstormwater.org>