

## **Summary of Findings and Recommendations for the Charlotte Area Local Watershed Plan**

The Charlotte Area Local Watershed Plan (LWP) is 275 square miles and is located in Mecklenburg County and includes the City of Charlotte, Huntersville, Cornelius, and Pineville. The area is mainly urban with land uses including residential, commercial, and industrial with some agriculture operations remaining.

The LWP includes six hydrologic units (watersheds) in the Catawba River Basin to be assessed. These watershed are as follows:

- 03050101170010: McDowell Creek
- 03050101170020: Long Creek
- 03050103020020: Irwin/Sugar Creeks
- 03050103020030: Briar/Little Sugar Creeks
- 03050103020040: McMullen Creek
- 03050103020050: McAlpine Creek

McDowell, Long, Irwin/Sugar, Briar/Little Sugar and McAlpine Creeks were all identified on the 2000 303 (d) list. Impairments identified were due to Fecal Coliform and turbidity. McDowell and Long Creek are identified as water supply waters.

The local watershed planning effort began in 2002 and was completed in August 2003. It was a three-phased effort, including a preliminary watershed characterization, detailed watershed assessment, and development of plan recommendations. Its objectives were to develop a watershed management plan that can be used as a tool to enhance existing programs. The plan will identify restoration and watershed protection needs and opportunities, as well as other beneficial water quality program elements that the local government agencies can assess and possibly implement in their local program efforts. In addition, the plan will identify and prioritize possible candidate sites for stream and wetland restoration projects and for alternative watershed approaches that can be used to meet compensatory mitigation needs.

Additional goals were discussed by the stakeholders and include specific water quality improvements, estimating effects on water quality due to buildout, reducing incidences of flooding, working within Duke Power transmission corridors, and assessing the probability that the project could be built. In addition, coordination with state and federal agencies for permitting will be necessary for project sites that are selected in the future. Stakeholders included: Charlotte Storm Water Services (CSWS), Charlotte-Mecklenburg Utilities (CMU), Mecklenburg County Water Quality (MCWQ), Mecklenburg County Storm Water Engineering (MCSWE), North Carolina Wetlands Restoration Program (NCWRP).

A thorough watershed assessment determined that Sediment-related issues are significant related to wet weather flows. Total P levels are elevated, which may be significant for area lakes (McDowell and Long watersheds) or downstream. Point source controls for nutrients are already in place for discharges to the Catawba Lakes. These data indicate that sediment/turbidity and nutrient issues are ubiquitous throughout the watersheds. The biological data show the general poor condition of the Charlotte area watersheds indicating widespread biological impairment. Sediment and habitat impacts are the major causes cited for impairment. Some of the overall impairment is attributable to development of the watersheds, and specifically, from the hydrological changes that result from changes in land use and the addition of impervious cover.

Key stressors identified in the watershed and management strategies to address them are listed in the Table 1. These management strategies address known stressors for the watershed using a combination of stream and wetland restoration, institutional measures, best management practices (BMPs), and stressor-specific solutions.

**Table 1. Key watershed stressors and management strategies for the Charlotte Area LWP watershed**

<b>Stressors and Issues</b>	<b>Management Strategies</b>
Stream Bank Erosion	BMPs, stormwater ordinance, stream restoration, riparian buffer, LID
Channel Modification	Stream restoration
Excess Sediment Inputs	Implementation of Phase II stormwater requirements, stream and wetland restoration, S&EC practices
Excess Nutrient Inputs	Stream and wetland restoration, BMPs, point-source reductions, implementation of Phase II stormwater requirements, continued monitoring
Excess Heavy Metals	Stream and wetland restoration, BMPs, point-source reductions, implementation of Phase II stormwater requirements, continued monitoring
Stormwater	Implementation of Phase II stormwater requirements, BMPs
Impervious Cover	Stormwater BMPs, stormwater ordinance, LID