

Summary of Findings and Recommendations for the Upper Rocky River (Yadkin) Local Watershed Plan

The Upper Rocky River Local Watershed Plan (LWP) area is ~200 square miles and is located in Cabarrus, Iredell, Mecklenburg and Rowan Counties, including the towns of Mooresville, Davidson, Cornelius, Huntersville, Concord, Harrisburg, Kannapolis, Mint Hill and the City of Charlotte. This LWP, includes the hydrologic units 03040105010010, 03040105010020, 03040105020010, 03040105010030, 03040105010040, 03040105010050 and is characterized by both urban and rural landscapes. Streams in the LWP are classified as C waters, with some water supply waters present. Land uses include residential, commercial, industrial/institutional, open space and agricultural. Intense development is present in many of these watersheds and with that impacts relating to high imperviousness. Rocky River is identified on the 303(d) for impairments due to turbidity, Coodle Creek is impaired for biological impacts, Mckee Creek is impaired for Fecal Coliform and sediment and Clear Creek is impaired for Fecal Coliform.

The local watershed planning effort began in 2001 and was completed in 2004. This planning effort was expanded beyond its originally identified footprint and therefore occurred in two geographical phases; with each geographical phase incorporating a three-phased planning effort, including a preliminary watershed characterization, detailed watershed assessment, and development of plan recommendations. Its objectives were to (1) perform a detailed assessment of watershed conditions, identifying key stressors for stream health especially for 303(d) listed streams, and (2) develop a comprehensive strategy to restore and preserve stream integrity. A broad group of planning and natural resource professionals met frequently to oversee the plan's progress and develop recommendations. This group was composed of representatives of NC Forest Service, relevant Soil and Water Conservation Districts, Mecklenburg County Stormwater Services, Davidson Lands Conservancy, Iredell County, Cornelius, NCDWQ, Davidson, Land Trust for Central NC, Mecklenburg County, NRCS, Huntersville, Catawba Lands Conservancy, Mooresville, NCWRC, Open Space/Urban Institute, Concord, Cabarrus County, Charlotte-Mecklenburg Water Conservation District, City of Charlotte, Kannapolis, and Rowan County. Goals developed by this stakeholder group include: engage and educate the public and government, implement land use planning, enhance recreation and open space preservation, improve water quality, restore physical habitat, identify potential funding sources, and follow-up/implement for long term.

Intensive field monitoring and GIS assessment pinpointed major causes of degradation for watershed streams. Streams within these watersheds are impacted by a suite of stressors, including high levels of fecal coliform bacteria, nutrients, metals, channelization, stormflow scour resulting from high levels of impervious cover, point source discharges, impacts from agricultural operations and lack of adequate forested buffer.

Key stressors for streams in the Upper Rocky River watershed and management strategies to address them are listed in the Table 1. These management strategies address known stressors for the Upper Rocky River 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 Upper Rocky River watershed

Stressors and Issues	Management Strategies
Stream bank erosion	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, continued WQ monitoring & modeling, education, encourage community connection to water resources, implement land preservation techniques
Lack of adequate forested buffer	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, education, encourage community connection to water resources, implement land preservation techniques
Stream channelization	Restore aquatic & wildlife habitat (including stream restoration, riparian buffers), development controls, education, encourage community connection to water resources, implement land preservation techniques
Agricultural Impacts	Livestock exclusion, BMPs
Land Use Changes	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, continued WQ monitoring & modeling, education, encourage community connection to water resources, implement land preservation techniques
Sedimentation	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, continued WQ monitoring & modeling, education, encourage community connection to water resources, implement land preservation techniques
Point source in-stream impacts	Implement non-stormwater discharger management, encourage community connection to water resources, education, continue WQ monitoring & modeling
Nutrients	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, continued WQ monitoring & modeling, education, encourage community connection to water resources, implement land preservation techniques, implement non-stormwater discharger management
Fecal coliform bacteria	Restore aquatic & wildlife habitat (including stream/wetland restoration, riparian buffers), development controls (including LID & BMPs), S&EC ordinances, continued WQ monitoring & modeling, education, encourage community connection to water resources, implement land preservation techniques, implement non-stormwater discharger management