

## Summary of Findings and Recommendations for the Little Lick Creek Local Watershed Plan

The Little Lick Creek Local Watershed Plan (LWP) area is 20.8 square miles and is located in eastern Durham County in the 14-digit hydrologic unit 03020201050020. The headwaters begin west of Highway 70 at the edge of the City of Durham. The creek flows north-east and is crossed by Hwy 98. The creek flows into federally protected land that forms the Falls Lake State Recreation Area. Land use is in an active state of rural to urban transition. Agriculture, forestry, rural and undeveloped land make up more than 50% of the land use but this area has been re-zoned for residential and commercial development and is transitioning rapidly. Little Lick Creek is classified as a water supply watershed with nutrient sensitive waters (WS IV NSW) because it is in the Falls Lake watershed. Little Lick Creek is classified as “impaired” because it does not adequately support aquatic life (NC Division of Water Quality 2004). From the headwaters to 0.4 miles upstream of SR 1811 (Sherron Rd.), NC DWQ considers urban development as the likely source of impairment. From 0.4 miles upstream of Sherron Rd. to the reservoir, low dissolved oxygen is also considered a possible source of impairment.

The local watershed planning effort began in 2004 and was completed in 2006. It was a three-phased effort, including a preliminary watershed characterization, detailed watershed assessment, and development of plan recommendations. Projects that were identified were developed into a Project Atlas in 2009 and an Implementation Plan is currently underway. Project partners were EEP, Upper Neuse River Basin Association, TJCOG, USGS, Center for Watershed Protection and NCDWQ. The Technical Team included participants from Durham County, City of Durham, City of Raleigh, Durham Soil and Water, TLC, Neuse River Foundation, USACE, NCWRC, NCNHP, NCDOT, The Crossings Golf Club, Rollingview Marina and interested citizens.

The watershed plan identified projects and strategies to help meet Neuse River Basin nutrient loading requirements. Specific projects identified in the plan included 24 stream restoration/enhancement projects, 24 buffer restoration projects and 71 stormwater retrofits. Additional management recommendations were Critical Lands Protection, Better Site Design, Improved Enforcement of Existing Rules, Watershed Outreach and Education, Adopt-A-Stream Program and Stream and Watershed Monitoring.

Key stressors in Little Lick Creek watershed and management strategies to address them are listed in the Table 1. Little Lick Creek is impaired because of its inability to support aquatic life and because of low dissolved oxygen levels. Fieldwork findings indicated that erosion and sedimentation and stormwater flow / inputs were primary stressors to Little Lick Creek. Recommendations included the need to better understand Triassic Basin streams and how to address the highly erodible soils. As development continues, existing environmental regulations must be enforced and additional actions need to take place to reduce stormwater flow.

**Table 1. Key watershed stressors and management strategies for the Little Lick Creek watershed**

Stressors and Issues	Management Strategies
Sedimentation/ Erosion of Stream Channel (loss of habitat)	Stream restoration / enhancement
Sedimentation/ Erosion of Stream Channel (loss of habitat)	Buffer restoration / preservation
Stormwater volume and rate of runoff	Stormwater BMPs
Conversion of farmland and forest to suburban/urban	Protection of Critical Lands
Altered Hydrology in Developed Settings	Low Impact Development requirements
Poorly functioning erosion and sediment control, illicit discharges, failing sewer lines, impacts to buffer, poorly designed stormwater controls	Improved Enforcement of Existing Rules
Localized water quality “hot spots”	Watershed Outreach and Education
Need for additional WQ information	Stream and Watershed Monitoring Program