

Summary of Findings and Recommendations for the Indian Creek & Howards Creek Local Watershed Plan

The Indian Creek and Howards Creek Local Watershed Plan (LWP) area totals 114 square miles and is located predominantly in western Lincoln County, approximately 30 miles northwest of Charlotte. The southernmost portion of the LWP area includes the northwestern corner of Gaston County and portions of the City of Cherryville. The watershed includes three 14-digit hydrologic units [03050102040030, 03050102040040 and 03050102050010] within the South Fork Catawba River sub-basin and the Southern Outer Piedmont ecoregion. The landscape is characterized by low rounded hills and ridges, and low to moderate gradient streams with relatively coarse (cobble, gravel) substrates. Overall land cover within the LWP area is a mix of agriculture (49%) and forest (41%), with the balance (10%) primarily low-density urban development concentrated in the Cherryville and Lincolnton areas. Streams in the LWP area are classified as “C” waters by the NC Division of Water Quality (DWQ) – supporting aquatic life and secondary recreation – with Indian Creek (and its tributaries) upstream of the Cherryville drinking water intake further classified as Water Supply II. The lowermost six miles of Indian Creek mainstem, from downstream of Cherryville to its terminus at the South Fork Catawba River, has been considered impaired [and therefore on the State’s 303(d) list] since 2006 due to low bio-classification scores and, more recently, standards violations for pH and turbidity.

The EEP local watershed planning effort began in early 2008 and was completed in summer of 2010. It included three distinct phases – preliminary watershed characterization, detailed watershed assessment, and development of the final Watershed Management Plan and Project Atlas. A team of local watershed stakeholders was involved from the beginning of the process; a total of nine stakeholder meetings were held, from March 2008 until April 2010. The Indian/Howards Creek LWP stakeholder team included representatives from Lincoln and Gaston County Soil and Water Conservation (SWCD) districts, Lincoln and Gaston County planning departments, the City of Lincolnton, the City of Cherryville, the Lincoln Natural Resources Committee, Carolina Land and Lakes RC&D, Catawba Lands Conservancy, the NC Rural Water Association, the NC Division of Water Quality, the NC Clean Water Management Trust Fund and the NC DENR Public Water Supply Section. Stakeholder involvement included the creation of subgroups charged with developing consensus recommendations for three priority watershed issues: source water protection planning (for Cherryville); stormwater management and local ordinance review; and rural preservation planning. Specific recommendations developed by the subgroups are contained in the final [Watershed Management Plan](#).

A combination of stakeholder input, GIS analyses, intensive field monitoring (including water quality and biological sampling), field assessments of degraded stream and wetland sites, and field evaluations of potential stormwater Best Management Practices (BMP) sites served to identify the major causes of stream and wetland degradation within the LWP area. [Watershed degradation was evaluated within the framework of three major functional categories: hydrology, water quality and habitat.] Major functional stressors affecting the Indian Creek, Howards Creek and Middle South Fork watersheds – and the watershed management strategies/practices recommended to address these stressors and their sources – are summarized in Table 1.

A local watershed group (the Lincoln Watershed Advisory Committee, or LWAC) continues to meet periodically to oversee implementation of the final Plan recommendations, including the pursuit of grant funding for stormwater BMP projects and the development of a local watershed education/awareness program. The state’s 319 program, administered through NC DWQ, awarded a grant in the fall of 2010 for the design and construction of a stormwater wetland and outdoor environmental classroom at West Lincoln High School. This work is being managed through the Lincoln County SWCD and Carolina Land and Lakes RC&D. In August 2010, the Lincoln County Board of Commissioners voted to formally endorse the final *Watershed Management Plan* (and contained recommendations) for Indian Creek and Howards Creek. EEP project implementation staff will use the final *Project Atlas* and work with county SWCD staff to pursue acquisition of the most promising mitigation project sites within the LWP area.

For more information on the NC EEP’s LWP initiative in the Indian Creek and Howards Creek watersheds, see <http://portal.ncdenr.org/web/eep/rbrps/catawba>.

Table 1. Key Watershed Stressors and Management Strategies for the Indian-Howards Creek Watershed

Watershed Stressors	Where Most Significant	Management Strategies
Channelization and stream dredging [Hydrologic modification]	Lower Indian Creek; Howards Creek; Middle South Fork Catawba	Stream and riparian buffer restoration/enhancement projects; watershed education; enforcement of existing rules/ordinances
Incised channels; unstable stream banks	Throughout; especially upper Howards Creek	Stream and riparian buffer restoration/enhancement; preservation of upstream reaches; stormwater and agricultural BMPs; adoption of county-wide stormwater ordinance
Degraded/deforested riparian buffers	Throughout; especially Howards Creek	Stream and riparian buffer restoration/enhancement; wetland restoration/enhancement; agricultural BMPs; preservation of existing high-quality stream reaches (riparian corridors); enforcement of buffer ordinance; watershed education; Greenways planning; stream mapping
Degraded wetlands (drained, cleared; invasive vegetation)	Lower Indian Creek; lower Howards Creek; Middle South Fork	Stream and riparian buffer restoration/enhancement; wetland restoration/enhancement; agricultural BMPs (e.g., livestock exclusion); preservation of existing intact wetlands
Livestock access to riparian buffers & streams	Throughout (agricultural lands; beef and dairy farms)	Stream and riparian buffer restoration/enhancement; agricultural BMPs (e.g., livestock fencing + provision of alternate watering sources, shade structures); watershed education
Fecal coliform and nutrient inputs	Throughout (esp. agricultural lands, farms, residential areas w/poor buffers)	Stream and riparian buffer restoration/enhancement; wetland restoration/enhancement; agricultural BMPs (e.g., livestock exclusion); watershed education; Source Water Protection planning and education
Impervious cover and stormwater runoff	Middle Indian Creek (e.g., W. Lincoln High School); lower Indian Creek (Cherryville area); major crossroads and commercial developments	Stream and riparian buffer restoration/enhancement; stormwater BMP projects; watershed education; monitoring and enforcement of WSW rules; adoption of county-wide stormwater ordinance; incorporation of stormwater BMPs into greenways planning & design; Source Water Protection planning
Accelerated soil erosion and sedimentation from upland sites	Throughout (construction sites, new developments, areas of logging & clearing)	Preservation of critical upland sites/areas; agricultural BMPs; watershed education; monitoring and enforcement of erosion/sediment control ordinance; amend existing ordinances to address sites under 1 acre in size