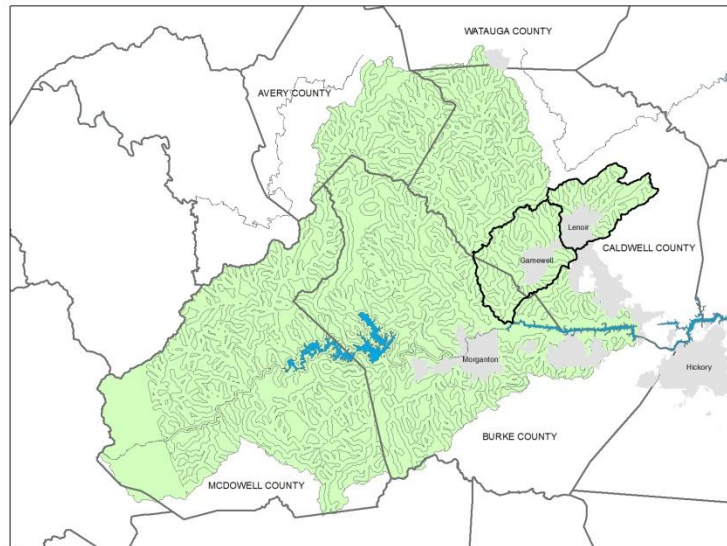


Lower Creek Source Water Protection Plan



October 2012

Western Piedmont Council of Governments



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1 - Executive Summary

The purpose of the Lower Creek Source Water Protection Plan (LCSWPP) is to build on the Lower Creek Watershed Management Plan that was written in 2006 by providing updated information on monitoring; listing Potential Contaminant Sources in the Watershed, and providing new strategies and priorities in the Watershed that improve water quality as it relates to drinking water sources. The plan acts as a first step for larger, more comprehensive Source Water Protection Plan's for the area.

Existing strategies in the Lower Creek Watershed Management Plan also relate to source water protection, so they will be further emphasized in the new LCSWPP. They include:

1. Adopt the Lower Creek *Watershed Management Plan* as a supplement to comprehensive plans.
2. Develop comprehensive stormwater management ordinances
3. Amend subdivision ordinances to promote Low Impact Development and other measures that limit development impacts
4. Adopt and enforce more comprehensive riparian buffer ordinances
5. Monitor compliance with and enforcement of erosion and sedimentation control ordinances
6. Develop steep slope ordinances
7. Amend ordinances to prohibit development in the 100 year floodplain
8. Develop a robust public education program
9. Adopt a comprehensive watershed-based land use plan for the Lower Creek watershed to protect Lake Rhodhiss.

This plan re-emphasizes priority projects from the Lower Creek Watershed Management Plan, and updates on what has been accomplished so far:

10. Continue to support and seek funding for preservation, restoration and BMP projects outlined in the Lower Creek Watershed Management Plan.

This Plan also recommends new strategies that apply directly to Source Water Protection:

11. Continue and increase support for projects to identify and correct onsite residential sewage treatment systems.
12. Continue water quality monitoring to identify problem areas and document improvements. Incorporate a volunteer monitoring component and alternative monitoring methods.
13. Build upon the existing education and outreach program in the agricultural industry to promote use of BMP's.
14. Improve monitoring and detection of potential leaks in sewage distribution systems.
15. Work with local governments and other relevant organizations to begin county wide Hazardous Waste Drop-off program.

16. Work with local health department and other relevant organizations to begin a prescription drug buy-back program (s).
17. Increase awareness and encourage participation in local stream clean-up programs.
18. Abandonment requirements/Brownfield programs for Potential Contaminant Sources.

The LCSWPP will provide methods to address previously known water quality issues (nutrients and fecal coliform) as well as previously unaddressed contaminants to drinking water in the lower creek watershed.

The LCSWPP will assist in protecting three public water drinking sources; including Granite Falls, Lenoir, and Valdese. The Lower Creek Watershed feeds directly into Lake Rhodhiss which is where the municipalities listed above have public water intakes. The retail population served for these systems is 6,445 for Granite Falls, 21,820 for Lenoir and 13,750 for the Town of Valdese.

The intake for the City of Morganton is also on Lake Rhodhiss, but upstream from where the Lower Creek Watershed feeds into Lake Rhodhiss. Additionally the Cities of Longview and Hickory have intakes downstream in Lake Hickory.

Due to limited resources, stakeholder engagement was limited to identifying the area for the plan development, which was determined to be Lower Creek area, and providing feedback and approval of the plan developed by WPCOG staff. WPCOG staff utilized two (2) stakeholder groups; the Western Piedmont Water Resources Committee (WRC) and the Lower Creek Advisory Committee (LCAT), both of which doubled as technical advisory groups. Once Lower Creek was selected by the WRC as the most appropriate watershed for this effort, staff was commissioned to develop the plan to meet the grant obligation and seek committee approval of the final document. Feedback and approval was granted in September 2012 by both stakeholder groups. This process was not ideal but allowed for the development of a plan with very limited resources.

Staff and the WRC chose the Lower Creek Watershed Plan as a basis from which to begin the plan for a few reasons:

- 1) A stakeholder group (LCAT) already existed
- 2) Existing strategies were already in place that also has an effect on Source Water Protection
- 3) There were resources and political will already in place.
- 4) The Lower Creek does drain directly into Lake Rhodhiss, which houses the water intake for Granite Falls, Lenoir, and Valdese. Additionally, the intake for Morganton is on Lake Rhodhiss, but upstream from where the Lower Creek Watershed feeds into Lake Rhodhiss, and the Longview and Hickory have intakes downstream.

Future efforts should and will concentrate on the entire source water area for multiple intakes in our region. The Source water area is much larger than just the Lower Creek Watershed, and a true Source Water Protection Plan would take into account the entire area that drains into the intake. New funding for Source Water Protection Plan development has been allocated by the NC Clean Water Management Trust Fund for 2013 and will be sought to fund these efforts.

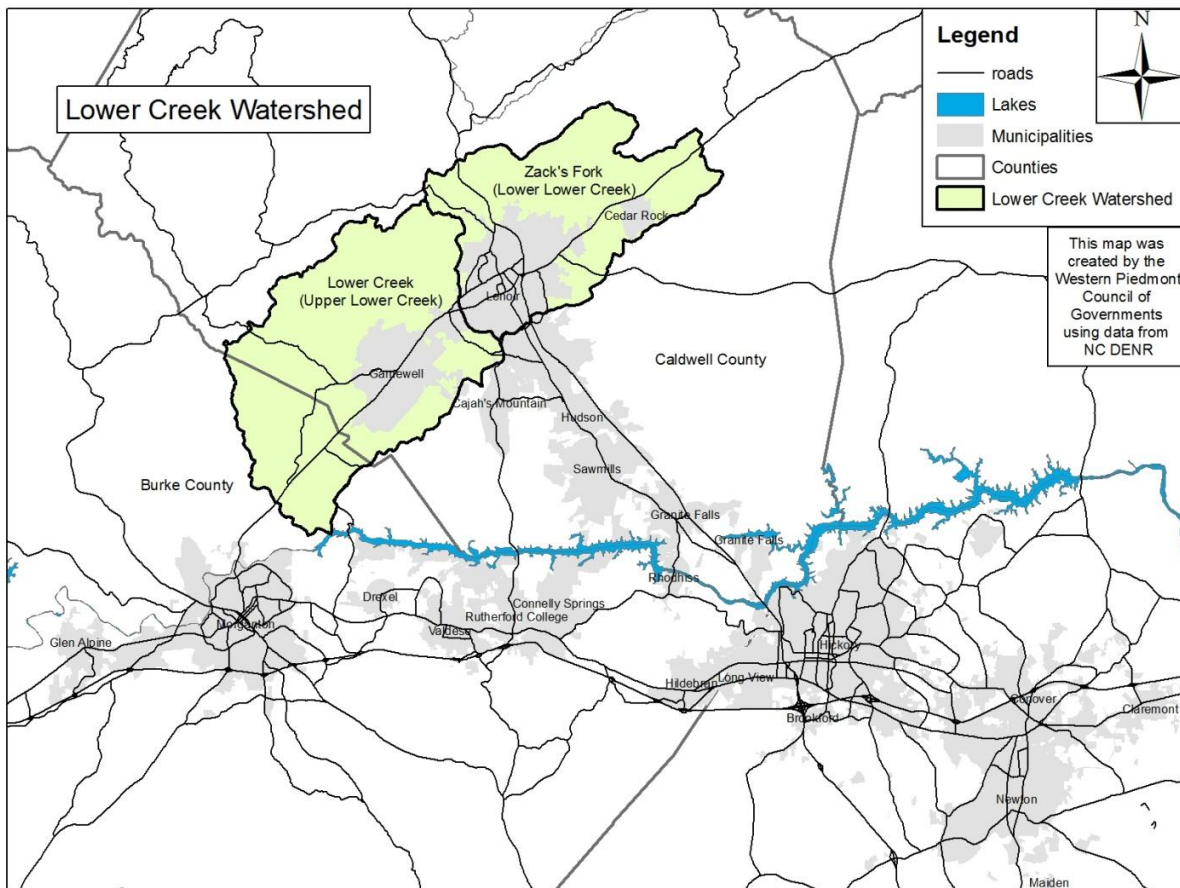
2 – Project Planning Area

2.1 – Lower Creek Watershed

The focus of this Source Water Protection Plan (SWPP) is the Lower Creek watershed, consisting of two 14-digit hydrologic units (HUs). This includes the Upper Lower Creek (03050101080020) which is approximately 57.58 square miles. Within this sub-basin are the Town of Gamewell, and a portion of the City of Lenoir. The other watershed is the Lower Lower Creek (03050101080010) sometimes referred to as Zacks Fork, and is approximately 50.59 square miles. The two watershed combined are located in Caldwell and Burke Counties, with a total drainage area of approximately 98 square miles.

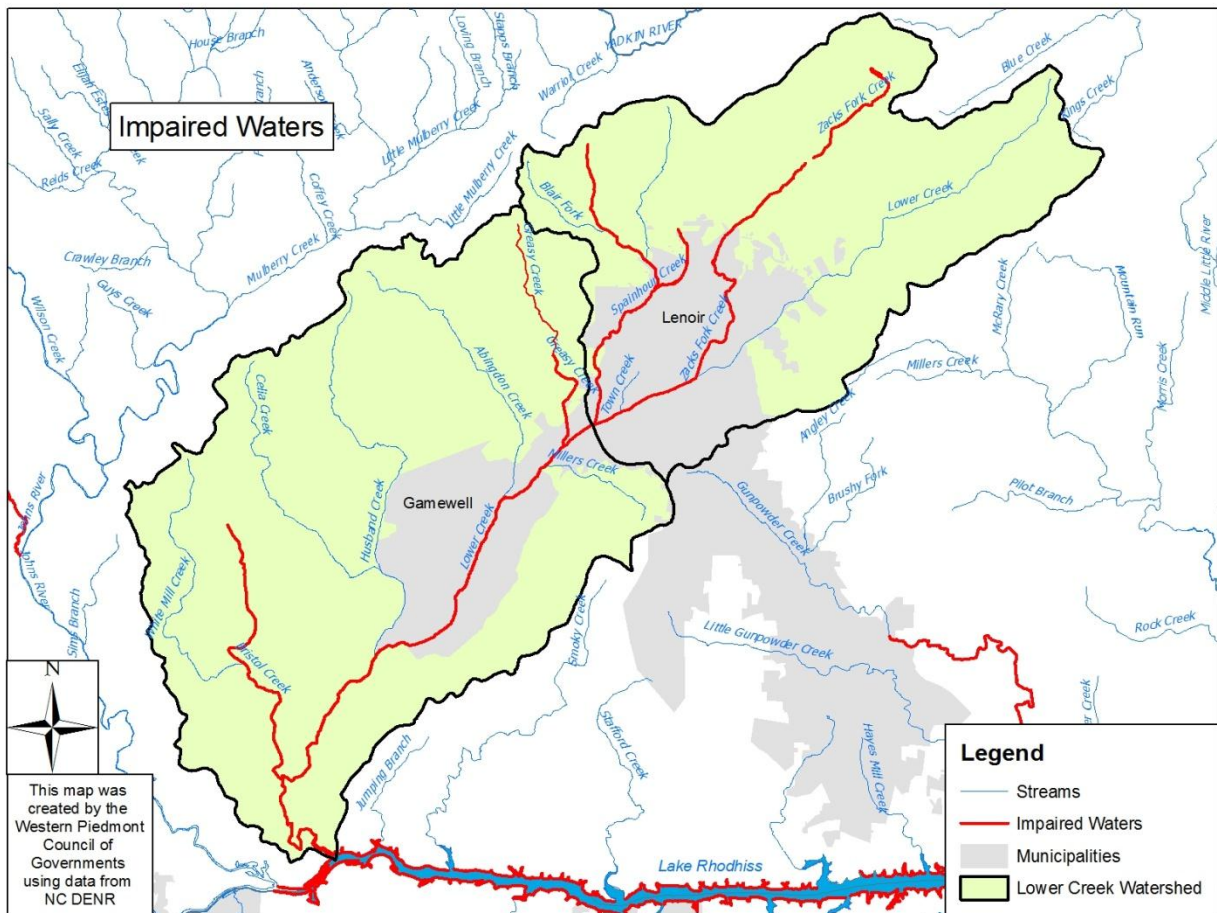
For the purposes of this plan, the two watersheds will be referred to as just Lower Creek or “the watershed” as that is how they are referred to in the Lower Creek Watershed Management Plan. The watershed includes the communities of Lenoir, Gamewell, Cedar Rock, and a portion of Cahaj’s Mountain. Major tributaries in the watershed include: Zacks Fork Creek, Blair Creek, Spainhour Creek, Abingdon Creek, Husband Creek, Celia Creek, Bristol Creek, and White Mill Creek. The watershed drains into Lake Rhodhiss, the water supply source for Lenoir, Gamewell, Hickory, and portions of Catawba, Caldwell and Burke Counties.

Map 1: The Lower Creek Watershed



Lower Creek and several of its feeder streams are on North Carolina’s 2012 list of impaired waters — Lower Creek, Zacks Fork, Spainhour Creek, Greasy Creek, and Bristol Creek. These streams suffer from excess sedimentation, degraded habitat for aquatic organisms, fecal coliform bacteria contamination, excessive stormwater flows, and pollutants such as nutrients, metals, and other toxicants from various non-point pollution sources. In addition, Lake Rhodhiss, into which Lower Creek flows, is on the 303(d) list due to factors related to excess nutrients.

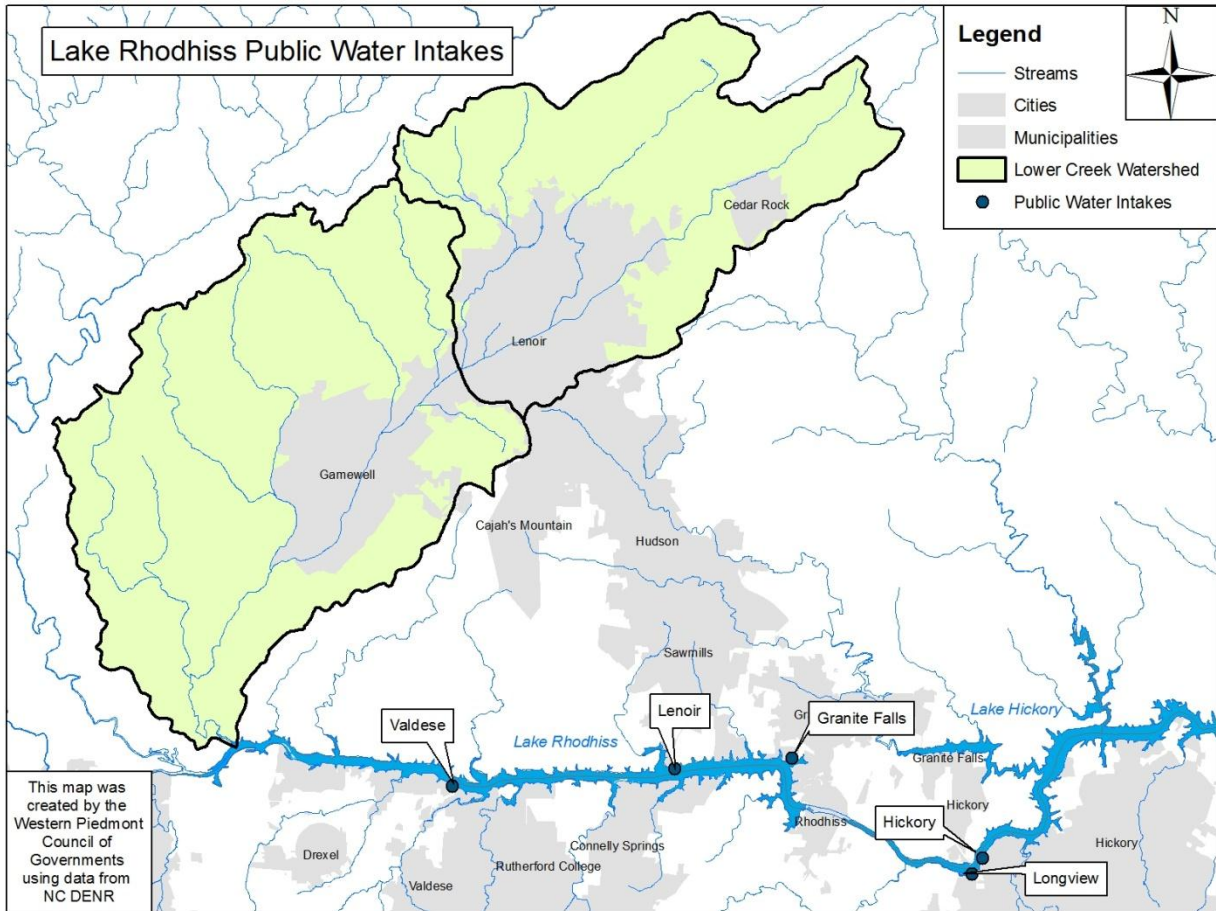
Map 2: Impaired Waters in the Lower Creek Watershed



2.2 – Lake Rhodhiss

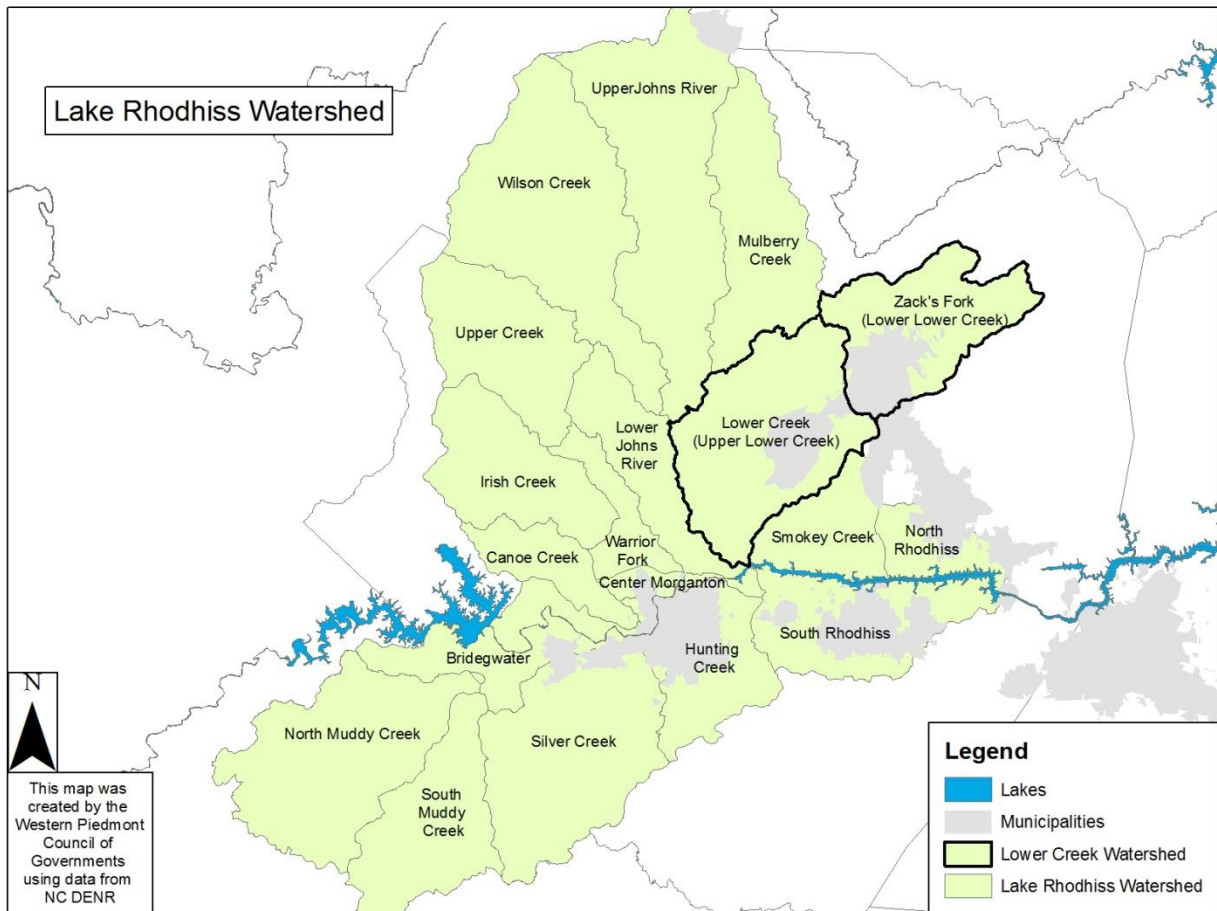
Lake Rhodhiss is a 3,515-acre reservoir located on the Catawba River in western North Carolina. This lake lies within Burke and Caldwell Counties and is a run-of-the-river reservoir located on the Catawba River downstream of Lake James and upstream of Lake Hickory. It was impounded in 1925 by Duke Energy for generating hydroelectric power. Three municipalities, Granite Falls, Lenoir, and Valdese, have public water intakes located along the lake. Water from the lake is also used for waste assimilation, drinking water, industrial water supply, recreation, and habitat for fish and wildlife species.

Map 3: Lake Rhodhiss Public Water Intakes



The watershed area of Lake Rhodhiss is 710 square miles in size, and the lake has the greatest watershed: surface area ratio of any North Carolina impoundment along the Catawba. Topography and soils vary considerably within the watershed. The northern portion of this watershed is very rural, undeveloped and contains substantial federal land holdings. Urban areas are generally concentrated in Lenoir, Morganton and Marion, as well as the I-40 and US 70 corridors between Morganton and the unincorporated Icard area of Burke County. Development activities are concentrated along these corridors.

Map 4: Lake Rhodhiss Watershed

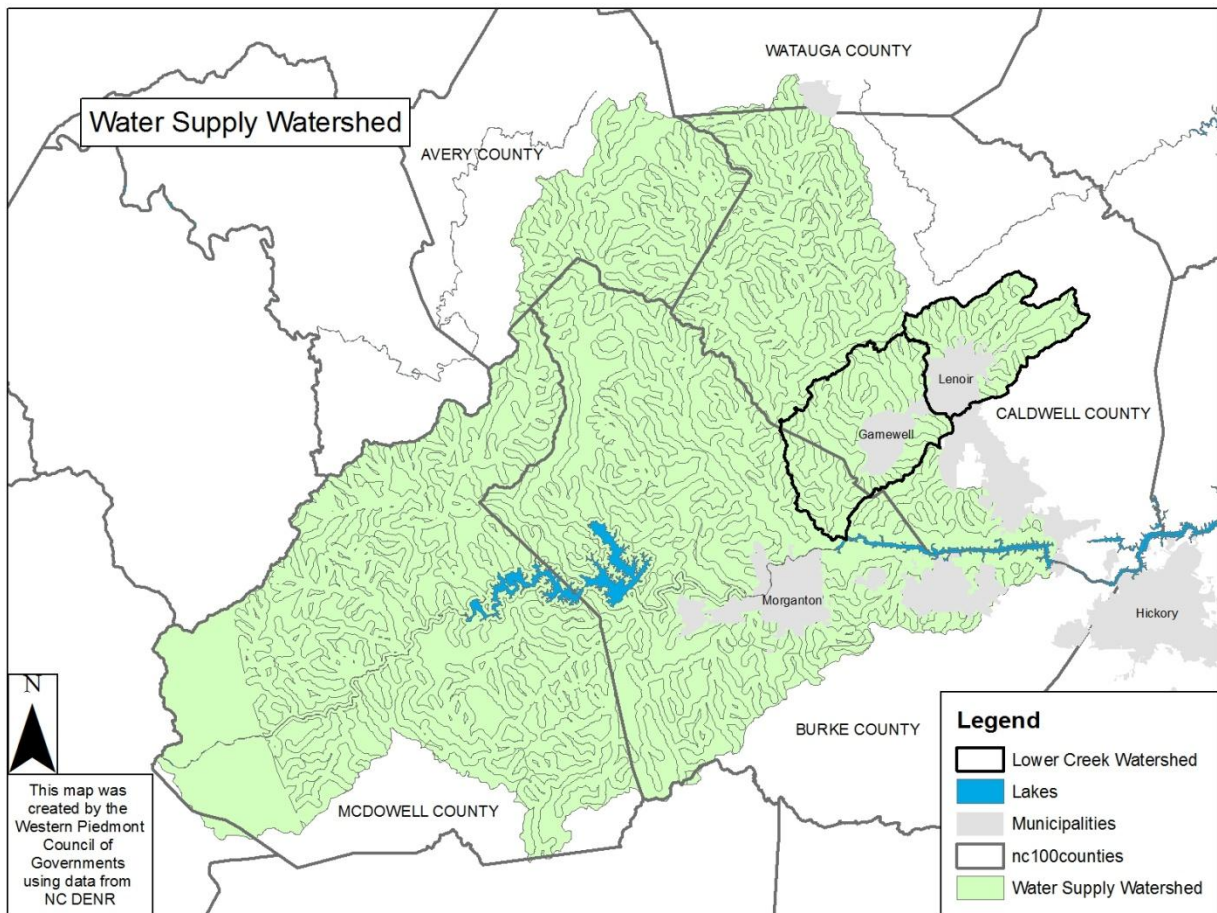


2.3 – Source Water Watershed Boundaries

The area delineated for surface water source(s) for source water assessments is the water supply watershed. In general, the water supply watershed is the area through which contaminants, if released to the environment, can be reasonably expected to move across the land surface following the path of overland flow or shallow subsurface flow and into the surface water body (stream or lake). Map 5 shows the water supply watershed for the City of Lenoir. The boundaries are also the same for the Cities of Valdese, Morganton, and if the boundary is extended slightly farther east, it reaches the City of Hickory Source Water intake.

The water supply watershed boundaries are very close to what is considered the Lake Rhodhiss Watershed, except for the western side, where the water supply watershed extends farther north into McDowell County.

Map 5: Source Water Watershed Boundaries



This Planning Project focuses only on a portion of the source watershed rather than the entire area that impacts a particular water intake. This is mainly due to funding limitations. The Lower Creek watershed was selected due to an already established program, ongoing monitoring efforts and existing public buy-in. Future source water protection efforts in the region are anticipated to incorporate whole watershed water supply boundaries.

3 – Planning Process

The *Lower Creek Source Water Protection Plan* was developed by the Western Piedmont Council of Governments using input from multiple groups such as a Technical Advisory Committee, the Lower Creek Advisory Committee (LCAT), the Water Resources Committee, and using data provided by NC DENR, Caldwell County Soil and Water, the NC Ecosystem Enhancement Program and the Western Piedmont Council of Governments.

The heart of the *Lower Creek Source Water Protection Plan* are recommended strategies for education and outreach, planning and policy, restoration and retrofits, and research and monitoring. Section 7 includes all the recommendations together in summary and tabular form for quick reference

3.1 – Planning Team

The Technical Advisory Committee included staff from the Western Piedmont Council of Governments. This Committee met as a whole a few times to develop the project and monitor its progress. The Technical Advisory Committee for this project includes staff members from the Western Piedmont Council of Governments (WPCOG). The Committee included:

- John E. Wear III, Environmental Planner, Western Piedmont Council of Governments
- Tony R Gallegos, Natural Resources Administrator, Western Piedmont Council of Governments
- Taylor Dellinger, GISP, Data Analyst and Geographer, Western Piedmont Council of Governments

3.2 – The Lower Creek Advisory Team

The Lower Creek Advisory Team (LCAT) was formed in August of 2006 at the end of the EEP local watershed planning (LWP) initiative. The LCAT was established as a subgroup of Caldwell County Pathways and represents a continuation of the Lower Creek Technical Advisory Committee (TAC) that supported earlier phases of the LWP effort. The LCAT mission, as determined at its first official meeting in September 2006, is:

“To restore and protect Lower Creek and its tributaries, while increasing public awareness of local water quality issues”.

The LCAT membership consists of representatives from most of the same groups represented on the original Lower Creek TAC and other organizations, including Local Governments: many department staff (Planning/Community Development, Public Works, Stormwater and School Districts) from – Burke and Caldwell County, the City of Lenoir, the Town of Gamewell; Soil & Water Conservation Districts; State Agencies: NC State Cooperative Extension Service, NCSU

Science House, NC Division of Water Quality, Ecosystem Enhancement Program; Federal Agencies: Natural Resource Conservation Service; Non-Governmental Organizations: Caldwell County Pathways, Reese Institute, Carolina Land and Lakes RC&D, Catawba River Keepers Association, the Caldwell Green Commission and the Western Piedmont Council of Governments. Others group's individuals not mentioned are periodically represented and membership is open to all who are interested.

Recommendations and priority areas from the Plan were presented to the Lower Creek Advisory Committee (LCAT) on September 12, 2012. Those present at the final meeting were satisfied with the final recommendations and priority areas as presented.

3.3 – Water Resources Committee

The *Lower Creek Source Water Protection Plan* has been reviewed by the Water Resource Committee, which is the key interface that the Western Piedmont Council of Governments (WPCOG) uses to interact with local governments on the issue of water resources. Formed in 1986, this Committee is staffed by the WPCOG serves in an advisory role for 30 local governments within the Greater Hickory Metro on issues including water quality, water supply, water safety and recreation, and watershed issues within the Upper Catawba River Basin. The Catawba River Study Committee consists of individuals representing local governments, nonprofit organizations, educational institutions and businesses from Alexander, Burke, Caldwell, Catawba and McDowell Counties in Western North Carolina.

Recommendations and priority areas from the Plan were presented to the Water Resource Committee on September 19, 2012. The Water Resources Committee was satisfied with the final recommendations and priority areas as presented and voted to approve the draft plan. Staff from the NC Ecosystem Enhancement Program were also present at the meeting to discuss fecal coliform hot spots in the Lower Creek Watershed, which ultimately became the priority areas for this plan.

3.4 – Outreach

The *Lower Creek Source Water Protection Plan* will be presented to all local governments within the watershed in late winter of 2012 by staff at the Western Piedmont Council of Governments. The local governments will be asked to voluntarily adopt the recommendations and begin implementing the plan in areas for which they have authority.

The *Lower Creek Source Water Protection Plan* is intended to be an evolving document, revised on a regular basis or as policies and economic conditions change. This is a plan encompassing a smaller geographic area, but opens the door for developing a larger plan and developing a long-term strategy for developing further plans in the region for entire water supply watersheds. A key element of the plan involves developing plans for larger areas. The parties responsible for implementing the plan should review the document periodically to determine its effectiveness and the need for revisions.

4 – Summary of the Lower Creek Watershed Management Plan

4.1 – Background of the Lower Creek Watershed Management Plan

In 1998, the Western Piedmont Council of Governments published the Lower Creek Watershed Project, which documented water quality problems and named watershed protection recommendations and urban stormwater recommendations. This effort included a study of fecal coliform bacteria levels, stormwater outfall mapping, and benthic macroinvertebrate monitoring. Stakeholders were involved in early stages of identifying problem areas and potential management strategies.

In 2003, the North Carolina Ecosystem Enhancement Program (EEP) started follow-up planning in the Lower Creek watershed. The plan expanded on the efforts of the previous work, developing more information on the health of streams in the watershed and identifying causes of degradation. Its goals were to: (1) to assess stream quality in the watershed, identifying key sources of degradation and pollution, and (2) to develop a comprehensive strategy to address watershed needs. The plan is the result of three years of effort involving in-stream data collection on water quality, habitat, and channel stability, Geographic Information System (GIS) data analysis, and development of ecologically and locally relevant management strategies to restore and preserve stream health. A Technical Advisory Committee (TAC) aided the planning team in reviewing data, identifying plan recommendations, and developing implementation priorities. The TAC, comprised of natural resource and planning staff from Lenoir, Caldwell and Burke Counties, non-profit organizations, and regional and state government entities, was essential to the development of a watershed plan that incorporates priorities of the local community.

(This summary is taken from the Lower Creek Watershed Management Plan – See Appendix A)

4.2 – Prioritization in the Lower Creek Watershed Management Plan

The LCWMP prioritized subwatersheds for restoration, preservation, or stormwater BMP activities based on functional integrity, degree of imperviousness, number of possible projects, and TAC recommendations. A set of 38 primary projects were identified within priority subwatersheds and include:

- 4 **Stream Preservation** sites, totaling 81,500 linear feet, or 15.4 miles
- 22 **Stream Restoration** sites, totaling 73,000 linear feet (post-construction), or 13.8 miles
- 2 **Wetland Preservation** sites, totaling 74 acres
- 3 **Wetland Restoration** sites, totaling 135 acres
- 3 combined **Wetland/Stream Restoration** sites, totaling 97 acres and 4,980 linear feet
- 4 **Stormwater BMP** sites, totaling 56 acres of BMP structures (ponds/basins; constructed wetlands; bioretention areas; permeable pavement)

4.3 – Strategies of the Lower Creek Watershed Management Plan

Institutional measures. Ordinances, regulations, codes, and other instruments should be revised or developed by Lenoir, Gamewell, and Burke and Caldwell Counties to minimize negative impacts of development and other land use activities. The following measures are highly recommended:

1. Adopt the Lower Creek *Watershed Management Plan* as a supplement to comprehensive plans.
2. Develop comprehensive stormwater management ordinances
3. Amend subdivision ordinances to promote Low Impact Development and other measures that limit development impacts
4. Adopt and enforce more comprehensive riparian buffer ordinances
5. Monitor compliance with and enforcement of erosion and sedimentation control ordinances
6. Develop steep slope ordinances
7. Amend ordinances to prohibit development in the 100 year floodplain
8. Develop a robust public education program
9. Adopt a comprehensive watershed-based land use plan for the Lower Creek watershed to protect Lake Rhodhiss

5 - Potential Contamination Sources (PCS)

5.1 – Source Water Assessment Program Report

The North Carolina Division of Environmental Health, Public Water Supply (PWS) Section is responsible for implementing the Source Water Assessment Program (SWAP) and completing assessments for all public drinking water supplies in the state. A source water assessment is a qualitative evaluation of the potential of a drinking water source to become contaminated by the identified potential contaminant sources (PCS) within the delineated area.

Surface water sources can be threatened by many potential contaminant sources, including permitted wastewater discharges, urban storm water runoff, or other types of non-point source contamination such as runoff produced by agricultural activities and land clearing for development. Map 6 shows all of the PCSs located in the Lower Creek Watershed, and Table 1 lists them all. A complete list of all of the PCSs located in the water supply watershed as well as the entire SWAP report for the City of Lenoir can be found at <http://www.ncwater.org/pws/swap/>.

A list of just those PCS that are in the Lower Creek Watershed are listed in the table below. Types of PCS's include: animal operations (AO), superfund sites (CERCLIS), Hazardous Waste Transporter/Generators (HWGT), National Pollution Discharge and elimination System permit holders (NPDES), petroleum contaminated soils (PCBS), prior pollution incidents (PIRF), Tier II

hazardous chemical inventory (TII), treatment storage and disposal (TSD), Old Landfill Sites (UDS), underground injection control wells (UIC), and underground storage tanks (UST).

Map 6: Potential Contaminant Sources in the Lower Creek Watershed

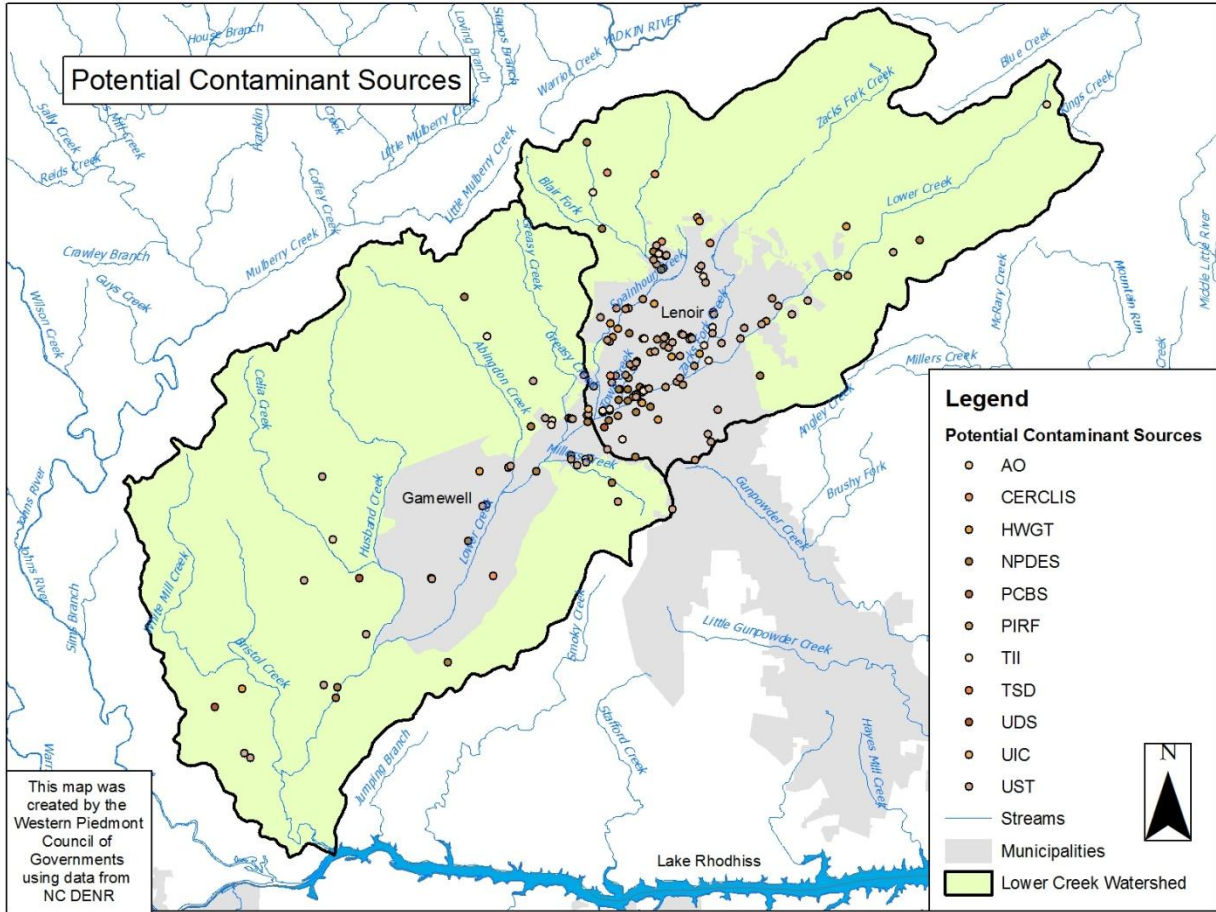


Table 1: Potential Contaminant Sources in the Lower Creek Watershed

PCS_ID	PCS_NAME	ADDRESS	CITY	STATE	ZIP	COUNTY	PCSTYPE
AWC140007	Clay's Dairy	4415 Celia Creek Road	Lenoir	NC	28645	Caldwell	AO
NCD986204758	GAMEWELL DRUM SITE	CRAIG MOUNTAIN RD	GAMEWELL	NC	28645	Caldwell	CERCLIS
NCD991278466	BROYHILL FURNITURE MILLER HILL COMP	MILLER HILL RD/NC 18 S	LENOIR	NC	28645	Caldwell	CERCLIS
NCD986231298	PUETT BODY SHOP	2200 BRISTOH CREEK AVE	MORGANTON	NC	28655	BURKE	HWGT
NC0000268094	RYDER TRUCK RENTAL INC	1305 VIRGINIA ST SW	LENOIR	NC	28645	Caldwell	HWGT
NCD089158323	NACCO MATERIALS HANDLING GROUP, INC.	2040 MORGANTON BOULEVARD	LENOIR	NC		Caldwell	HWGT
NCD982134249	D R KINCAID CHAIR CO	SHEELY RD RT 11 BOX 109	LENOIR	NC	28645	Caldwell	HWGT
NC0048755	Monte Carlo Trailer Park	1606 Poplar St	Lenoir	NC	28645	Burke	NPDES
NC0023981	Lower Creek WWTP	NCSR 1149	Lenoir	NC	28645	Caldwell	NPDES
NCG020039	Martin Marietta-Hudson	Sw Loop Blvd bradford m	Hudson	NC	28638	Caldwell	NPDES
NCG140097	Hamby Brothers Concrete Incorporated	2051 Morganton Blvd SW	Lenoir	NC	28645	Caldwell	NPDES
NCG120060	Republic Services Of NC LLC - Lenoir	2800 Cheraw Rd	Lenoir	NC	28645	Caldwell	NPDES
NCG180082	Broyhill Furniture Ind-Caldwel	Miller Hill Complex St	Lenoir	NC	28633	Caldwell	NPDES
NCG180111	Kincaid Furniture Co-Plant #8	Rocky Rd	Hudson	NC	28638	Caldwell	NPDES

NCG500178	Miller Hill Complex	Complex St	Lenoir	NC	28633	Caldwell	NPDES
NCG520090	Mabe Pit	1000 - 1209 Atioch	Morganton	NC	28655	Burke	NPDES
NCG520083	Calico Pit	4338 Calico Rd	Lenoir	NC	28645	Caldwell	NPDES
NCG080186	United Parcel Service-Lenoir	107 Industrial Ct	Lenoir	NC	28645	Caldwell	NPDES
24332	CROSSROAD MARKET	3135 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	PIRF
28005	WALKER STORE	1224 CONNELLY SPRINGS ROAD	LENOIR	NC		Caldwell	PIRF
28231	BROYHILL FURNITURE-MILLER HILL	802 COMPLEX STREET	LENOIR	NC	23424	Caldwell	PIRF
13295	LENOIR GAS HOUSE	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
B683A6F3BA2906 C685256FC1005FF57A	TRIGEN-BIOPOWER, INC - LENOIR	700 COMPLEX PLACE	LENOIR	NC	28645	Caldwell	TII
C87AA5660BC546AA8 52570FF005707DC	FOOTHILLS ENVIRONMENTAL	2800 CHERAW RD	LENOIR	NC	28645	Caldwell	TII
FB2D6D1C5456FDD38 525702600464C08	RYDER TRANS SERVICES #0362 LENOIR	1305 VIRGINIA ST	LENOIR	NC	28645	Caldwell	TII
085F2294AB8ACDC48 5257013004BDCC7	SCHWAN FOOD CO - LENOIR	2304 ICENHOUR CT NW	LENOIR	NC	28645	Caldwell	TII
1D835C2C9D31F24F85 25701B006C80A9	UNITED PARCEL SERVICE - LENOIR	107 INDUSTRIAL CT	LENOIR	NC	28645	Caldwell	TII
35FCD97E8600E48885 257052005772B9	MARLIN CO, INC	1333 VIRGINIA STREET	LENOIR	NC	28645	Caldwell	TII
NCD089158323	NACCO MATERIALS HANDLING GROUP INC	2040 MORGANTON BLVD NW	LENOIR	NC	28645	Caldwell	TSD
NONCD0000168	BRISTOL CREEK COMM. DUMP			NC		BURKE	UDS
NONCD0000192	ANDERSON REFUSE DUMP			NC		Caldwell	UDS
0-003863	THE COLONEL'S PANTRY 11/22304	HIGHWAY 18 NORTH	MORGANTON	NC	28655	BURKE	UST
0-000623	Q-EXPRESS II (587)	555 ABINGTON ROAD	LENOIR	NC	28645	Caldwell	UST
0-004698	HERMAN'S TIRE & AUTO	2807 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	UST
0-004402	YALE MATERIALS HANDLING CORP.	2040 MORGANTON BLVD.	LENOIR	NC	28645	Caldwell	UST
0-004796	GAMEWELL SUPERETTE	2830 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	UST
0-004808	CROSSROADS MARKET (549)	3153 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	UST
0-007759	CONNELLY SPRINGS GAS HOUSE	1320 CONNELLY SPRINGS ROAD SW	LENOIR	NC	28645	Caldwell	UST
0-007766	LENOIR GAS HOUSE	2652 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	UST
0-029588	CHESTERFIELD ELEMENTARY SCHOO	2142 PAX HILL ROAD	MORGANTON	NC	28655	BURKE	UST
0-034600	B & J SUPERETTE	2940 NC 18 US 64	MORGANTON	NC	28655	BURKE	UST
0-029368	UNITED PARCEL SERVICE	107 INDUSTRIAL COURT	LENOIR	NC	28645	Caldwell	UST
0-031381	MARLIN COMPANY, INC.	1333 VIRGINIA STREET NW	LENOIR	NC	28645	Caldwell	UST
0-032980	FAST TRACK 136	2175 MORGANTON BLVD, SW	LENOIR	NC	28645	Caldwell	UST
0-034102	RYDER TRANSPORTATION 0362	1305 VIRGINIA ST SW	LENOIR	NC	28645	Caldwell	UST
0-035490	RUDISILL OIL & GROCERY	3296 PLAYMORE BEACH ROAD	MORGANTON	NC	28655	Caldwell	UST
0-035250	FLEMINGS CHAPEL BAPTIST CHURC	4420 HARTLAND RD	LENOIR	NC	28645	Caldwell	UST
0-003861	MIDWAY MARKET & DELI. INC.	3426 MORGANTON BLVD/NC HWY 18	LENOIR	NC	28645	Caldwell	UST
AWD140005	Bob Price Farm			NC		Caldwell	AO
NCD000604322	SINGER CO FURNITURE DIV PLTS 3 4 & MH	904 VIRGINIA ST	LENOIR	NC	28645	Caldwell	CERCLIS
NCD000604330	SINGER CO FURNITURE DIV PLT #1	1409 WEST COLLEGE AVE SW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD003158979	BERNHARDT FURNITURE CO PLANT #2	VIRGINIA ST	LENOIR	NC	28645	Caldwell	CERCLIS
NCD045456134	BUSS AUTOMATION INC	511 CREEKWAY DR NW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD046149019	HISTRAND CHEM INC	HWY 9	LENOIR	NC	28645	Caldwell	CERCLIS
NCD053009510	RELIANCE UNIVERSAL OF KY	1713 MAIN STREET NW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD054290770	THOMASVILLE FURNITURE INDS	315 ELIZABETH ST NW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD079066833	LENOIR REFINING CO	263 PENNTON AVE NW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD980557888	LENOIR CITY LDFL	904 VIRGINIA ST	LENOIR	NC	28645	Caldwell	CERCLIS

NCD000829101	BERNHARDT FURNITURE PLANT 5	1904 MORGANTON BOULEVARD SW	LENOIR	NC	28645	Caldwell	HWGT
NCD000829119	BERNHARDT FURNITURE PLANT 7	1402 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD000829127	BERNHARDT FURNITURE PLANT 3	1502 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD001936699	BERNHARDT FURNITURE PLANT 1	1548 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD003158979	BERNHARDT FURNITURE PLANT 2	1828 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	HWGT
NCD003159126	FAIRFIELD CHAIR PLANT 1	1331 HARPER AVENUE SOUTHWEST	LENOIR	NC	28645	Caldwell	HWGT
NCD045456134	BUSS AUTOMATION INCORPORATED	511 CREEKWAY DR NW	LENOIR	NC	28645	Caldwell	HWGT
NCD054290770	THOMASVILLE FURNITURE IND INC	315 ELIZABETH STREET NORTH WEST	LENOIR	NC	28645	Caldwell	HWGT
NCD981025406	PAXAR PRINTED LABEL GROUP	950 GERMAN ST.	LENOIR	NC	28645	Caldwell	HWGT
NCD981862683	TOM BROOKS CHEVROLET-BUICK	515 WILKESBORO BLVD NE	LENOIR	NC	28645	Caldwell	HWGT
NCD982115289	CITY SERVICE CLEANERS AND LAUNDRY	1036 HARPERS AVENUE NORTH WEST	LENOIR	NC	28645	Caldwell	HWGT
NCD982131773	AIR POWER INC	724 HARRISBURG RD SW	LENOIR	NC	28645	Caldwell	HWGT
NCD982134207	CALVIN MADISON INCORPORATED	602 CREEKWAY DR	LENOIR	NC	28645	Caldwell	HWGT
NCD982140071	GRAND MANOR FURN	929 HARRISBURG DR SW	LENOIR	NC	28645	Caldwell	HWGT
NCD986215531	CYTOSOL OPHTHALMICS LENOIR	1325 WILLIAM WHITE PLACE NORTHEAST	LENOIR	NC	28645	Caldwell	HWGT
NCD986232619	GREER LABORATORIES INC	639 NUWAY CIR	LENOIR	NC	28645	Caldwell	HWGT
NCD054511860	MCCREARY CHAIR	2929 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	HWGT
NCD982088767	BARLOWES LAUNDRY	325 HARPER AVE	LENOIR	NC	28645	Caldwell	HWGT
NCD981480858	JORDANS CLEANERS	220 MORGANTON BLVD SW	LENOIR	NC		Caldwell	HWGT
NCD981922545	TRI COUNTY FORD LINC MERC INC	HWY 321 S	HUDSON	NC		Caldwell	HWGT
NCD986175982	BLUE RIDGE LABS	PINE MOUNTAIN RD	LENOIR	NC	28645	Caldwell	HWGT
NCD986177400	BELLSOUTH TELECOMMUNICATIONS	1047 HARPER AVE	LENOIR	NC	28645	Caldwell	HWGT
NCD986182483	SANDERS ELECTRIC MOTOR SER INC	285 WILDWOOD RD	LENOIR	NC	28645	Caldwell	HWGT
NCD986213296	CALDWELL MEMORIAL HOSPITAL	321 MULBERRY ST	LENOIR	NC	28645	Caldwell	HWGT
NCD986230332	RYDER TRUCK RENTAL INC	734 HARRISBURG DR SW	LENOIR	NC	28645	Caldwell	HWGT
NCD991278342	BROYHILL FURNITURE INDS INC HARPER PLT	418 S PROSPECT ST	LENOIR	NC		Caldwell	HWGT
NC0043231	Cedar Rock Country Club	450 Cedar Rock Estates Dr	Lenoir	NC	28645	Caldwell	NPDES
NCG020026	Vulcan Construction Materials - Lenoir Quarry	2008 Wilkesboro Blvd SE	Lenoir	NC	28645	Caldwell	NPDES
NCG180169	Thomasville Furniture Ind., Inc. - Lenoir Plant	315 Elizabeth St NW	Lenoir	NC	28645	Caldwell	NPDES
NCG180190	Fairfield Chair Co-Plt #1	107 Beall St SW	Lenoir	NC	28645	Caldwell	NPDES
NCG170313	American & Efid Incorporated-Nelson	619 Connelly Springs Rd	Lenoir	NC	28645	Caldwell	NPDES
NCG180152	Bernhardt Furniture Co-Cen Lum	714-B Lynn Haven Dr	Lenoir	NC	28645	Caldwell	NPDES
NCG180153	Bernhardt Furniture Co-Plt 5	1904 Morganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG180154	Bernhardt Furniture Co-Plt 7	1402 Morganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG180155	Bernhardt Furniture Co-Plt 3	1502 Morganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG180156	Bernhardt Furniture Co-Plt 2	1828 Murganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG180157	Bernhardt Furniture Co-Plt 1	1548 Morganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG500072	Lenoir Plant	315 Elizabeth St NW	Lenoir	NC	28645	Caldwell	NPDES
NCG500179	Virginia Street Complex	Virginia St	Lenoir	NC	28633	Caldwell	NPDES
NCG550801	Blessed Hope Church	US 321 N	Lenoir	NC	28645	Caldwell	NPDES
NCGNE0050	Hickory Springs Mfg. Co.-HS Converting Division	1418 Underdown Ave SE	Lenoir	NC	28645	Caldwell	NPDES
NCGNE0115	Bernhardt Furniture Company	904 Virginia St	Lenoir	NC	28645	Caldwell	NPDES
NCS000066	Neptune Inc	815d Virginia St	Lenoir	NC	28645	Caldwell	NPDES
NCG180084	Broyhill Furniture Ind Incorporated	Virginia St	Lenoir	NC	28633	Caldwell	NPDES
NCG210133	H. Parsons, Inc.	100 Parsons Park Dr	Lenoir	NC	28645	Caldwell	NPDES

NCG050229	Sealed Air Corporation	2075 Valway Rd	Lenoir	NC	28645	Caldwell	NPDES
NCD042270405	BLUE RIDGE EMC	1216 Blowing Rock Blvd	LENOIR	NC	28645	Caldwell	PCBS
6505	E-Z WAY AUTO SALES	1036 MORGANTON BLVD SW	LENOIR	NC	28645	Caldwell	PIRF
28201	SERVCO No. 01912 (former)	1507 Morganton Blvd. SW	Lenoir	NC	28645	Caldwell	PIRF
6404	LENOIR MUFFLER SHOP	681 CONNELLY SPRINGS ROAD	LENOIR	NC	28645	Caldwell	PIRF
6091	LENOIR GOLF CLUB	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
5476	ARNOLD'S MUFFLER SHOP	438 HARPER AVENUE NW	LENOIR	NC	28645	Caldwell	PIRF
28150	Economy Oil	1241 West Harper Avenue	Lenoir	NC	28645	Caldwell	PIRF
28102	CALDWELL CNTY SCHOOLS MAINTENANCE	214 CLARK DRIVE	LENOIR	NC	28645	Caldwell	PIRF
10202	ROGERS SELF SERVICE	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
9999	SINGER-METHANOL UST	1409 COLLEGE AVE	Lenoir	NC	28655	Caldwell	PIRF
9997	SINGER-UST #4 & UST #5	1409 COLLEGE AVE	Lenoir	NC	28655	Caldwell	PIRF
10747	HATCHERS AUTO & TRUCK	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
10910	NORTHSIDE BP STATION	1005 MAIN STREET	LENOIR	NC	28645	Caldwell	PIRF
9489	SINGER-NAPTHA UST	1409 college Ave	Lenoir	NC	28655	Caldwell	PIRF
13114	JAMIE WHITE PROPERTY	MAIN STREET AND HWY18	LENOIR	NC	28645	Caldwell	PIRF
17199	CALDWELL CO. SHERIFF'S OFFICE	212 MULBERRY STREET	LENOIR	NC	28645	Caldwell	PIRF
13052	BEALL OIL BULK STORAGE	505 CREEKWAY DRIVE	LENOIR	NC	28645	Caldwell	PIRF
28006	RAINEY'S GULF SERVICE	301 MAIN STREET	LENOIR	NC	28645	Caldwell	PIRF
11783	RUN-IN #719	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
21966	ZIP'S USED CARS	1334 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	PIRF
3210	SINGER FURNITURE-PLANT NO. 1	1409 WEST COLLEGE AVE SW	LENOIR	NC	28645	Caldwell	PIRF
23360	SHOEMAKER OIL	1340 MORGANTON BLVD. SW	LENOIR	NC	28645	Caldwell	PIRF
28240	BERNHARDT-SEAGLE COMPANY	117 MAIN ST	LENOIR	NC	28645	Caldwell	PIRF
3544	BUSS AUTOMATION	511 CREEKWAY DRIVE	LENOIR	NC		Caldwell	PIRF
3193	SINGER FURNITURE DIV.	723 VIRGINIA ST.	LENOIR	NC		Caldwell	PIRF
7554	THOMASVILLE FURNITURE INDUS.	P. O. BOX 339	THOMASVILLE	NC	27361	Caldwell	PIRF
8918	AKZO (RELIANCE UNIVERSAL)	1713 MAIN ST. NW	LENOIR	NC		Caldwell	PIRF
22168	SOUTHEASTERN ADHESIVES	815D VIRGINIA ST., SW	LENOIR	NC	28645	Caldwell	PIRF
85604	ASPHALT PLANT-MIDSTATE CONTRACTORS	HIGHWAY 18	LENOIR	NC	28645	Caldwell	PIRF
21624	LENOIR QUARRY (AST)	HWY 18	LENOIR	NC	28645	Caldwell	PIRF
87010	NACCO Materials Handling Group	2040 Morganton Boulevard	Lenoir	NC	28645	Caldwell	PIRF
9F3161B2ABCBB0678 52571060054CFB9	DUKE ENERGY - MILLER HILL TIE & RETAIL	212 MULBERRY ST	LENOIR	NC	28645	Caldwell	TII
41AB6BA0AACBB848 8525705B005EC394	BELLSOUTH - 22919	1047 W HARPER AVE	LENOIR	NC	28645	Caldwell	TII
4FD48A8323DB7D13 852570210050AC6C	CASE GOODS - UPHOLSTER	1904 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
72F5DED1C979613 485256F97006657EA	BROYHILL FURNITURE - HARPER PLANT	418 PROSPECT STREET	LENOIR	NC	28633	Caldwell	TII
91B7426B675350E08 52570210050AC6A	CASE GOODS - HOUSEHOLD FURNITURE	1402 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
948CCBD1FF8EB16F 8525702000666D39	THOMASVILLE FURNITURE IND, INC - LENOIR	315 ELIZABETH STREET, NW	LENOIR	NC	28645	Caldwell	TII
988FD6076902759E85 2570210050AC6B	CASE GOODS - PLANT 2	1838 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
D0B09B11C9E31B0C 852570210050ABE9	BERNHARDT FURNITURE CO	1502 MORGANTON BLVD	LENOIR	NC		Caldwell	TII
FC54640C3F5847AF8 52570210050AC14	BLUE RIDGE ELECTRIC MEMBERSHIP CORP	1216 BLOWING ROCK BOULEVARD	LENOIR	NC	28645	Caldwell	TII
3F032C486AB9FD478 5256FF8004742AF	NEWS TOPIC	123 PENNTON AVENUE	LENOIR	NC	28645	Caldwell	TII
105B2C133F1D9CFE8 52570210050AC2B	BLUE RIDGE ENERGIES - LENOIR	110 NUWAY CIRCLE NE	LENOIR	NC	28645	Caldwell	TII

2579126AAF5EB51E8 525702D005B5464 2D6874598420B6A385 25702B005DCDEA	SEALED AIR CORP - LENOIR	2075 VALWAY RD	LENOIR	NC	28645	Caldwell	TII
NCD980557888	NEPTCO, INC - 002	2012 HICKORY BLVD	LENOIR	NC	28645	Caldwell	TII
WI0100039	LENOIR CITY LF		LENOIR	NC		Caldwell	UDS
0-001188	Nacco Materials	2040 Morganton Blvd	Lenoir	NC	28645	Caldwell	UIC
0-002424	TIME SAVE (562)	1337 NORWOOD STREET SW	LENOIR	NC	28645	Caldwell	UST
0-004924	HARPER AVENUE BP	429 HARPER AVENUE	LENOIR	NC	28645	Caldwell	UST
0-004598	JACK B QUICK 9	162 WILKESBORO BOULEVARD SE	LENOIR	NC	28645	Caldwell	UST
0-004625	LENOIR ICE & FUEL	107 LIGHT STREET SW	LENOIR	NC	28645	Caldwell	UST
0-004701	GAS & GO (554)	1124 BLOWING ROCK ROAD	LENOIR	NC	28645	Caldwell	UST
0-004775	AJ'S EXPRESS	1302 MORGANTON BOULEVARD, S.W.	LENOIR	NC	28645	Caldwell	UST
0-007321	BELLSOUTH LENRNCMA 22919	1047 W HARPER AVE	LENOIR	NC	28645	Caldwell	UST
0-007322	CALDWELL COUNTY SCH BUS GARAG	113 TREMOUNT DRIVE	LENOIR	NC	28645	Caldwell	UST
0-007109	CALDWELL CO SCHOOL MAINT.SHOP	214 CLARK DRIVE	LENOIR	NC	28645	Caldwell	UST
0-007757	HOLIDAY FOODS 3	933 WILKESBORO BLVD	LENOIR	NC	28645	Caldwell	UST
0-007588	CUBBARD ESPRESS 10	510 BLOWING ROCK BOULEVARD	LENOIR	NC	28645	Caldwell	UST
0-007994	SERVICE 01912	1507 MORGANTON BLVD.,SW	LENOIR	NC	28645	Caldwell	UST
0-007806	BRUEX, INC.	312 LUTZ STREET	LENOIR	NC	28645	Caldwell	UST
0-007820	HOLIDAY FOODS 2	1718 MORGANTON BLVD.,S.W.	LENOIR	NC	28645	Caldwell	UST
0-011166	HOLIDAY SUPERETTE	1742 BLOWING ROCK BLVD	LENOIR	NC	28645	Caldwell	UST
0-021147	TOM BROOKS CHEVROLET- BUICK, I	515 WILKESBORO BOULEVARD N.E.	LENOIR	NC	28645	Caldwell	UST
0-021138	HOLIDAY FOODS 15/TOBACCO TO G	1136 HICKORY BLVD SW	LENOIR	NC	28645	Caldwell	UST
0-021623	RUN-IN FOOD STORE 731/22618	1251 NORWOOD DRIVE S.W.	LENOIR	NC	28645	Caldwell	UST
0-024894	BLUE RIDGE ENERGIES LLC	110 NUWAY CIRCLE	LENOIR	NC	28645	Caldwell	UST
0-025322	D & D MILLER HILL (550)	1101 VIRGINIA STREET SW	LENOIR	NC	28645	Caldwell	UST
0-025861	FOOTHILLS FOOD PLAZA	440 BLOWING ROCK BLVD NE PO BX 4	LENOIR	NC	28645	Caldwell	UST
0-027535	CALDWELL MEMORIAL HOSPITAL	321 MULBERRY STREET	LENOIR	NC	28645	Caldwell	UST
0-028234	HIBRITEN HIGH SCHOOL	550 EAST BLVD	LENOIR	NC	28645	Caldwell	UST
0-032480	CEDAR ROCK COUNTRY CLUB, INC	450 CEDAR ROCK DRIVE	LENOIR	NC	28645	Caldwell	UST
0-033119	ROSS & COMPANY (578)	1902 HARPER AVE NW	LENOIR	NC	28645	Caldwell	UST
0-033928	WILCO 353	502 WILKESBORO BLVD, SE	LENOIR	NC	28645	Caldwell	UST
0-033929	CALDWELL COUNTY SHERIFF'S OFF	212 MULBERRY STREET	LENOIR	NC	28645	Caldwell	UST
0-034455	FOOTHILLS AREA PROGRAMS	606 COLLEGE AVENUE	LENOIR	NC	28645	Caldwell	UST
0-035881	PAXAR PRINTED LABEL	950 GERMAN STREET	LENOIR	NC	28645	Caldwell	UST
0-207653	FASTOP FOOD MART 301	215 BLOWING ROCK BLVD, NW	LENOIR	NC	28645	Caldwell	UST
0-007421	THE TOBACCO CO INC (558)	353 S W HARPER AVENUE	LENOIR	NC	28645	Caldwell	UST
0-033495	MAX TAYLOR CONST. CO.	700 TAYLORSVILLE RD.	LENOIR	NC	28695	Caldwell	UST
	MUTUAL SAVINGS BANK	107 NORWOOD STREET	LENOIR	NC	28645	Caldwell	UST

All of the Potential Contamination Sources in the Lower Creek watershed are listed as high risk, so to prioritize the PCSs; a 500 foot buffer was used to determine all of those sources within 500 feet of a perennial stream. Map 7 shows the PCS within the 500 foot buffer and Table 2 is a summary of those PCS.

Map 7: Potential Contaminant Sources within 500 ft. of Perennial Streams

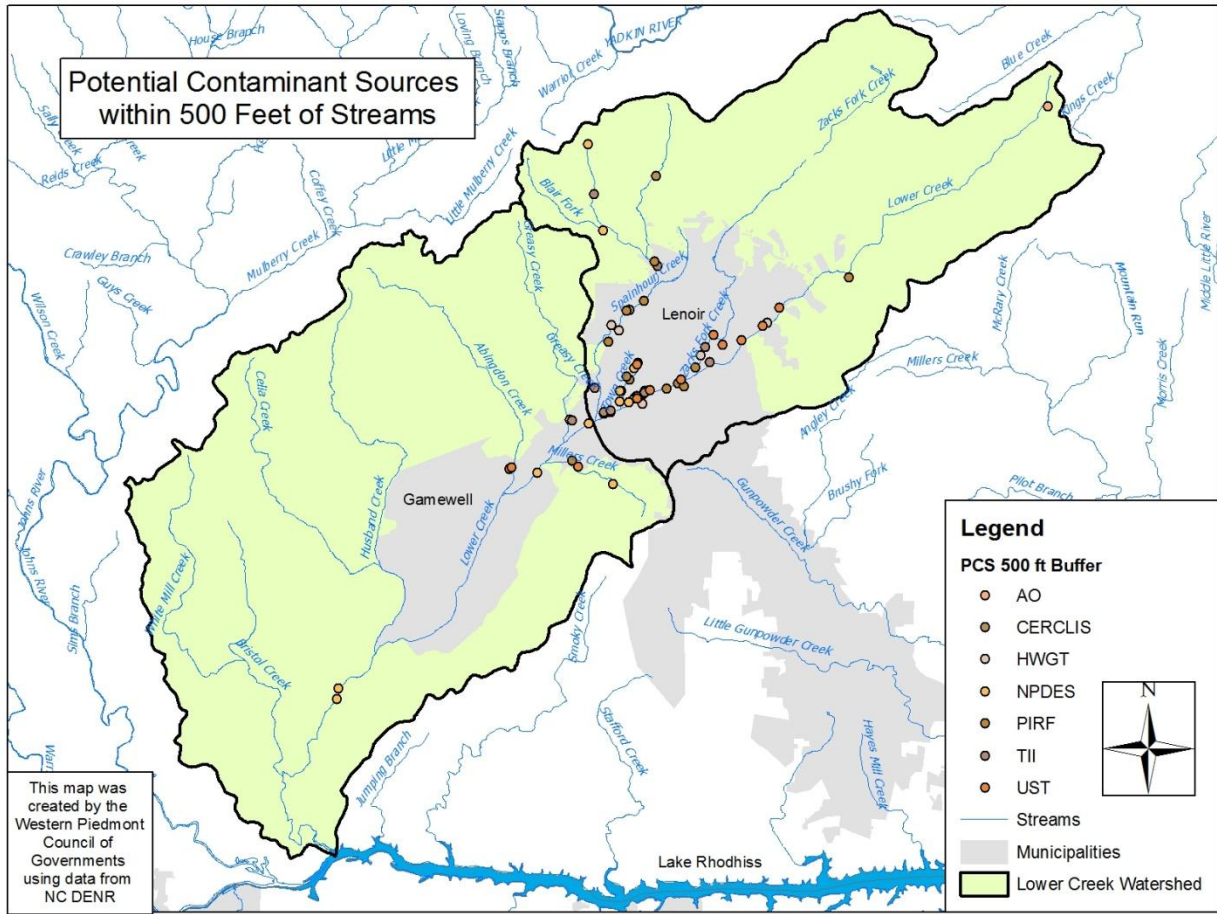


Table 2: Potential Contaminant Sources within 500 ft. of Perennial Streams

PCS_ID	PCS_NAME	ADDRESS	CITY	STATE	ZIP	COUNTY	PCSTYPE
NC0048755	Monte Carlo Trailer Park	1606 Poplar St	Lenoir	NC	28645	Burke	NPDES
NC0023981	Lower Creek WWTP	NCSR 1149	Lenoir	NC	28645	Caldwell	NPDES
NCG020039	Martin Marietta-Hudson	Sw Loop Blvd bradford m	Hudson	NC	28638	Caldwell	NPDES
NCG140097	Hamby Brothers Concrete Incorporated	2051 Morganton Blvd SW	Lenoir	NC	28645	Caldwell	NPDES
NCG500178	Miller Hill Complex	Complex St	Lenoir	NC	28633	Caldwell	NPDES
NCG520090	Mabe Pit	1000 - 1209 Atioch	Morganton	NC	28655	Burke	NPDES
28231	BROYHILL FURNITURE-MILLER HILL	802 COMPLEX STREET	LENOIR	NC	23424	Caldwell	PIRF
13295	LENOIR GAS HOUSE	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
B683A6F3BA2906 C685256FC1005FF57A	TRIGEN-BIOPOWER, INC - LENOIR	700 COMPLEX PLACE	LENOIR	NC	28645	Caldwell	TII
0-007766	LENOIR GAS HOUSE	2652 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	UST
0-031381	MARLIN COMPANY, INC.	1333 VIRGINIA STREET NW	LENOIR	NC	28645	Caldwell	UST
AWD140005	Bob Price Farm			NC		Caldwell	AO
NCD000604330	SINGER CO FURNITURE DIV PLT #1	1409 WEST COLLEGE AVE SW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD003158979	BERNHARDT FURNITURE CO PLANT #2	VIRGINIA ST	LENOIR	NC	28645	Caldwell	CERCLIS
NCD053009510	RELIANCE UNIVERSAL OF KY	1713 MAIN STREET NW	LENOIR	NC	28645	Caldwell	CERCLIS
NCD000829101	BERNHARDT FURNITURE	1904 MORGANTON	LENOIR	NC	28645	Caldwell	HWGT

	PLANT 5	BOULEVARD SW					
NCD000829119	BERNHARDT FURNITURE PLANT 7	1402 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD000829127	BERNHARDT FURNITURE PLANT 3	1502 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD001936699	BERNHARDT FURNITURE PLANT 1	1548 MORGANTON BLVD. S.W.	LENOIR	NC	28645	Caldwell	HWGT
NCD003158979	BERNHARDT FURNITURE PLANT 2	1828 MORGANTON BOULEVARD	LENOIR	NC	28645	Caldwell	HWGT
NCD003159126	FAIRFIELD CHAIR PLANT 1	1331 HARPER AVENUE SOUTHWEST	LENOIR	NC	28645	Caldwell	HWGT
NCD981025406	PAXAR PRINTED LABEL GROUP	950 GERMAN ST.	LENOIR	NC	28645	Caldwell	HWGT
NCD981862683	TOM BROOKS CHEVROLET-BUICK	515 WILKESBORO BLVD NE	LENOIR	NC	28645	Caldwell	HWGT
NCD982131773	AIR POWER INC	724 HARRISBURG RD SW	LENOIR	NC	28645	Caldwell	HWGT
NCD982134207	CALVIN MADISON INCORPORATED	602 CREEKWAY DR	LENOIR	NC	28645	Caldwell	HWGT
NCD981480858	JORDANS CLEANERS	220 MORGANTON BLVD SW	LENOIR	NC		Caldwell	HWGT
NCG180190	Fairfield Chair Co-Plt #1	107 Beall St SW	Lenoir	NC	28645	Caldwell	NPDES
NCG180154	Bernhardt Furniture Co-Plt 7	1402 Morganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG180156	Bernhardt Furniture Co-Plt 2	1828 Murganton Blvd	Lenoir	NC	28645	Caldwell	NPDES
NCG500179	Virginia Street Complex	Virginia St	Lenoir	NC	28633	Caldwell	NPDES
NCG550801	Blessed Hope Church	US 321 N	Lenoir	NC	28645	Caldwell	NPDES
NCG180084	Broyhill Furniture Ind Incorporated	Virginia St	Lenoir	NC	28633	Caldwell	NPDES
NCG050229	Sealed Air Corporation	2075 Valway Rd	Lenoir	NC	28645	Caldwell	NPDES
6505	E-Z WAY AUTO SALES	1036 MORGANTON BLVD SW	LENOIR	NC	28645	Caldwell	PIRF
28201	SERVCO No. 01912 (former)	1507 Morganton Blvd. SW	Lenoir	NC	28645	Caldwell	PIRF
6091	LENOIR GOLF CLUB	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
9999	SINGER-METHANOL UST	1409 COLLEGE AVE	Lenoir	NC	28655	Caldwell	PIRF
9997	SINGER-UST #4 & UST #5	1409 COLLEGE AVE	Lenoir	NC	28655	Caldwell	PIRF
10747	HATCHERS AUTO & TRUCK	UNKNOWN	UNKNOWN	NC		Caldwell	PIRF
10910	NORTHSIDE BP STATION	1005 MAIN STREET	LENOIR	NC	28645	Caldwell	PIRF
9489	SINGER-NAPTHA UST	1409 college Ave	Lenoir	NC	28655	Caldwell	PIRF
13114	JAMIE WHITE PROPERTY	MAIN STREET AND HWY18	LENOIR	NC	28645	Caldwell	PIRF
21966	ZIP'S USED CARS	1334 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	PIRF
3210	SINGER FURNITURE-PLANT NO. 1	1409 WEST COLLEGE AVE SW	LENOIR	NC	28645	Caldwell	PIRF
23360	SHOEMAKER OIL	1340 MORGANTON BLVD. SW	LENOIR	NC	28645	Caldwell	PIRF
3544	BUSS AUTOMATION	511 CREEKWAY DRIVE	LENOIR	NC		Caldwell	PIRF
7554	THOMASVILLE FURNITURE INDUS.	P. O. BOX 339	THOMASVILLE	NC	27361	Caldwell	PIRF
8918	AKZO (RELIANCE UNIVERSAL)	1713 MAIN ST. NW	LENOIR	NC		Caldwell	PIRF
22168	SOUTHEASTERN ADHESIVES	815D VIRGINIA ST., SW	LENOIR	NC	28645	Caldwell	PIRF
85604	ASPHALT PLANT-MIDSTATE CONTRACTORS	HIGHWAY 18	LENOIR	NC	28645	Caldwell	PIRF
21624	LENOIR QUARRY (AST)	HWY 18	LENOIR	NC	28645	Caldwell	PIRF
41AB6BA0AACBB848 8525705B005EC394	BELLSOUTH - 22919	1047 W HARPER AVE	LENOIR	NC	28645	Caldwell	TII
4FD48A8323DB7D13 852570210050AC6C	CASE GOODS - UPHOLSTER	1904 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
91B7426B675350E08 52570210050AC6A	CASE GOODS - HOUSEHOLD FURNITURE	1402 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
988FD6076902759E85 2570210050AC6B	CASE GOODS - PLANT 2	1838 MORGANTON BLVD	LENOIR	NC	28645	Caldwell	TII
D0B09B11C9E31B0C 852570210050ABE9	BERNHARDT FURNITURE CO	1502 MORGANTON BLVD	LENOIR	NC		Caldwell	TII
2579126AAF5EB51E8 525702D005B5464	SEALED AIR CORP - LENOIR	2075 VALWAY RD	LENOIR	NC	28645	Caldwell	TII
2D6874598420B6A385 25702B005DCDEA	NEPTCO, INC - 002	2012 HICKORY BLVD	LENOIR	NC	28645	Caldwell	TII
0-004924	JACK B QUICK 9	162 WILKESBORO BOULEVARD SE	LENOIR	NC	28645	Caldwell	UST

0-004598	LENOIR ICE & FUEL	107 LIGHT STREET SW	LENOIR	NC	28645	Caldwell	UST
0-004701	AJ'S EXPRESS	1302 MORGANTON BOULEVARD, S.W.	LENOIR	NC	28645	Caldwell	UST
0-007321	CALDWELL COUNTY SCH BUS GARAG	113 TREMOUNT DRIVE	LENOIR	NC	28645	Caldwell	UST
0-007109	HOLIDAY FOODS 3	933 WILKESBORO BLVD	LENOIR	NC	28645	Caldwell	UST
0-007588	SERVICE 01912	1507 MORGANTON BLVD.,SW	LENOIR	NC	28645	Caldwell	UST
0-007806	HOLIDAY FOODS 2	1718 MORGANTON BLVD.,S.W.	LENOIR	NC	28645	Caldwell	UST
0-032480	ROSS & COMPANY (578)	1902 HARPER AVE NW	LENOIR	NC	28645	Caldwell	UST
0-033119	WILCO 353	502 WILKESBORO BLVD, SE	LENOIR	NC	28645	Caldwell	UST
0-035881	FASTOP FOOD MART 301	215 BLOWING ROCK BLVD, NW	LENOIR	NC	28645	Caldwell	UST

5.2 – Emergency Planning

Caldwell County

Caldwell County has taken a comprehensive emergency management approach to meeting the needs of the public before, during and after a disaster by utilizing the All-Hazards approach to all risks: natural disaster, man-caused, technological, domestic or international terrorism, energy and material shortages, and it is integrated into our ongoing management program. This comprehensive approach includes all four phases of disaster or emergency activity: mitigation, preparedness, response and recovery. Figure 1 shows the Caldwell County Hazard Response Plan.

Figure 1: Caldwell County Emergency Management Hazmat Response Plan

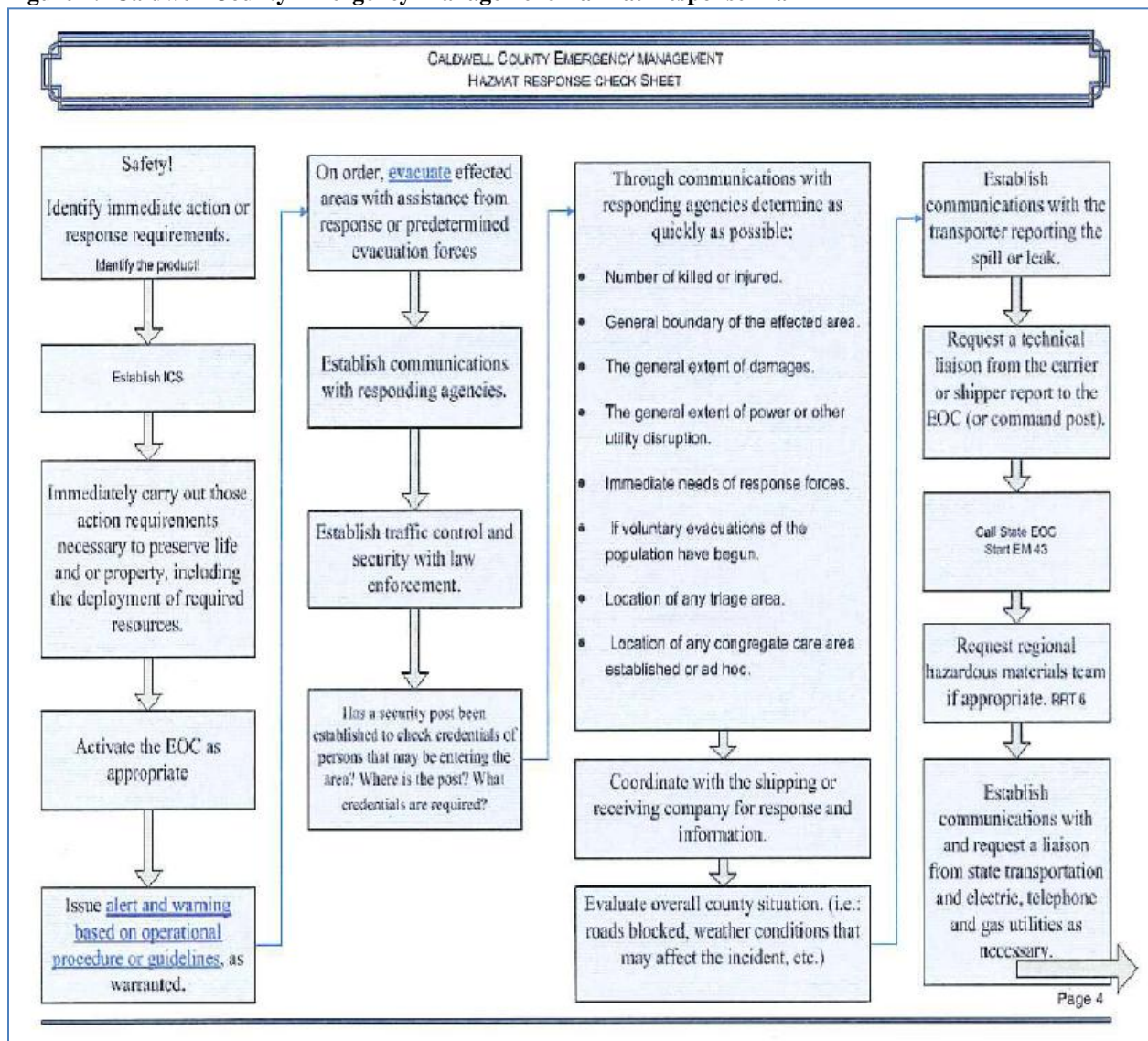
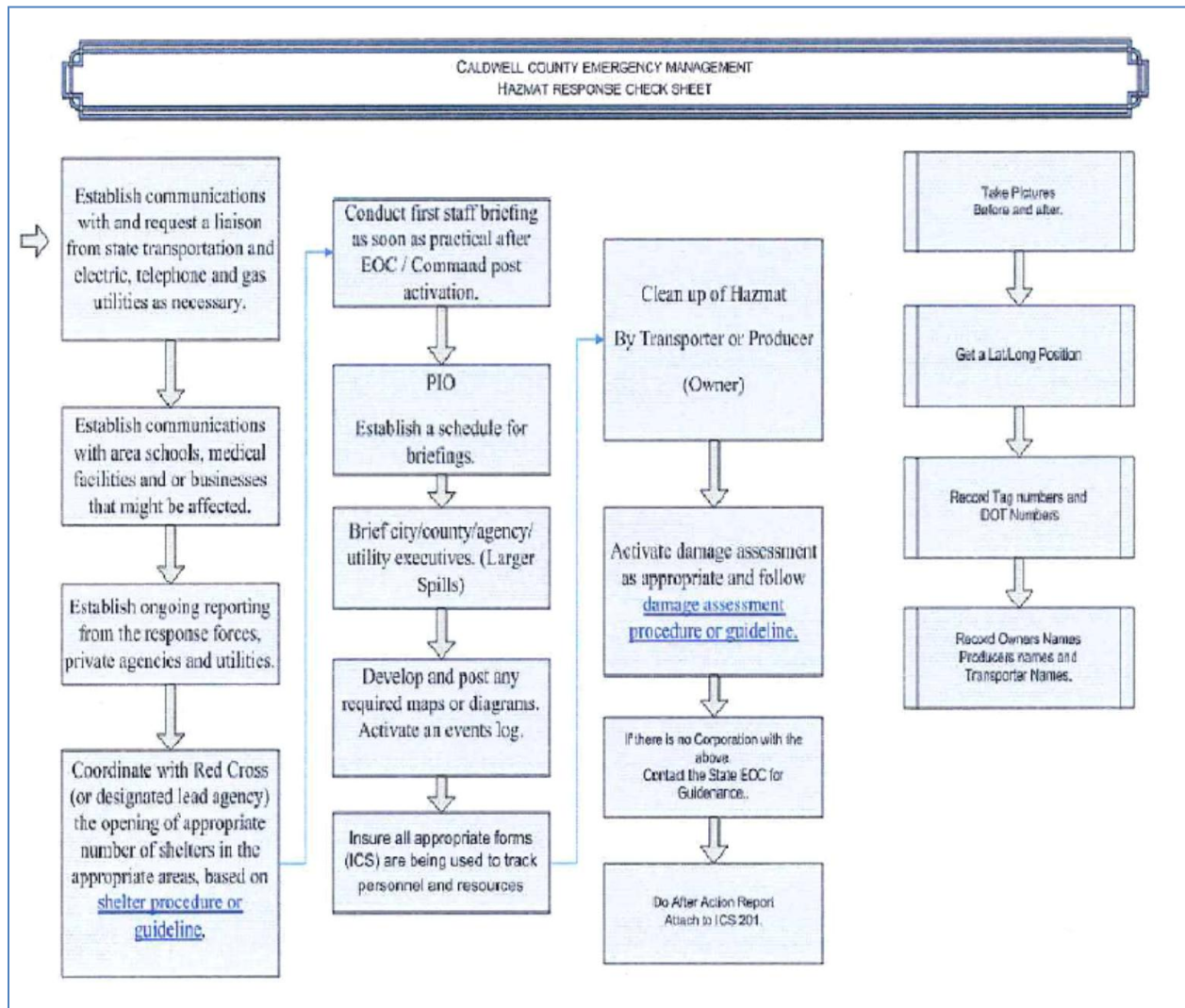
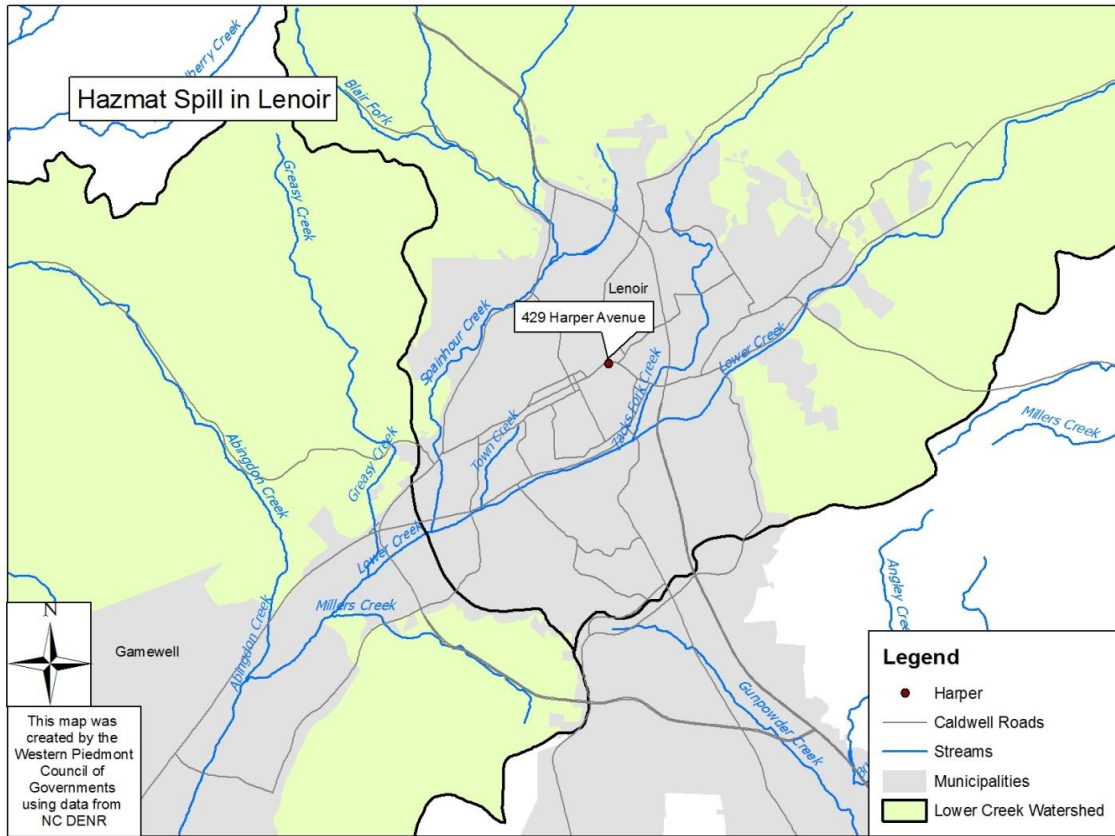


Figure 1: Caldwell County Emergency Management Hazmat Response (cont.)



At this time, there has only been one major spill that Caldwell emergency Management has had to respond to. On July 23, 2012 an underground petroleum leak is found under the U Save Mart at 429 Harper Avenue in Lenoir. The leak was traced to an underground storage tank that supplies fuel to the U Save Mart. Lenoir fire and Rescue lowered booms into the creek to contain the petroleum in the creek. Caldwell County worked with EPA and DAQ to get the petroleum out of the creek. As of August 8, 2012, the petroleum tank is still leaking, but the problem has been contained to the property from which it came.

Map 8: Hazmat Spill in Lenoir



Burke County

Burke County Emergency Medical Services offers numerous response services other than pre-hospital medicine and transports. EMS also operates a Special Operations Unit that responds to Wilderness Medical situations, and special situations with Law Enforcement and Fire Departments, specialized coverage for Mass Gatherings and Special Events, and Mass Decontamination along with the Burke County Hazardous Materials Team and State Medical Assistance Team.

The hazardous materials response service is a joint venture between the Fire Marshal's Office, other emergency agencies, and Morganton Department of Public Safety that came together to form a hazardous materials response team. The hazmat team was formed in 1988 and is available to respond to all areas of the County and municipalities. The team consists of twenty-one members and two response vehicles. Eleven members are state certified at the technician level that requires over two hundred hours of initial training and the remaining personnel are state certified at operations level. The team is capable to respond to a situation involving the release of a hazardous material from a fixed facility or a transportation incident for mitigation purposes that may require the use of special chemical protective clothing and respiratory protection. The hazardous materials team responds to approximately twenty-five calls per year. Figure 2 shows the Burke County Hazard Response Plan.

Figure 2: Burke County Emergency Management Hazmat Response Plan

<p style="text-align: center;">HAZARDOUS MATERIALS BASIC PLAN - APPENDIX 8 ATTACHMENT 3 GUIDELINES FOR RESPONSE TO HAZARDOUS MATERIALS INCIDENTS</p> <p>This is a suggested format. Actual implementation should be based upon training and the ability to perform the identified tasks. Source: Right-To-Know Planning Guide, the Bureau of National Affairs, Inc.</p> <p>This attachment may also contain suggested citizen instructions for major emergencies. These instructions can be used to expedite emergency public information measures. They contain general information for the threats.</p> <p>INITIAL RESPONDERS</p> <p>Size- Up/Identification</p> <ul style="list-style-type: none"> <input type="checkbox"/> Approach from upwind and upgrade. <input type="checkbox"/> Observe from safe distance. <input type="checkbox"/> Use binoculars if necessary. <input type="checkbox"/> Examine placards/labels. <input type="checkbox"/> Interview driver, conductors, facility operator, dock manager, etc. <input type="checkbox"/> Examine shipping papers or I.D numbers. <input type="checkbox"/> Refer to North American Guidebook or Firefighter's handbook of Hazardous Materials. <p>Isolate Area</p> <ul style="list-style-type: none"> <input type="checkbox"/> Avoid contact with materials, fumes, dust, etc. <input type="checkbox"/> Establish control line at safe distance. <input type="checkbox"/> Eliminate or avoid ignition sources. <input type="checkbox"/> Determine if larger evacuation is necessary to keep people away from chemicals. <p>Provide for Personnel Safety</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use appropriate personal protective equipment. <input type="checkbox"/> Consciously avoid committing personnel and equipment to an unsafe situation. <p>Emergency response agencies tasked with responding to the hazards identified as threats to Burke County can use the hazard specific checklists contained in this attachment. These checklists are not all-inclusive, but they cover key points.</p> <p>Rescue injured persons if possible to do so in a safe manner</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify all people who might have been injured or exposed 	<p>Establish Incident Command System</p> <ul style="list-style-type: none"> <input type="checkbox"/> Determine who is the On-Scene Incident Coordinator. <input type="checkbox"/> Set up field command post at same location <input type="checkbox"/> Advise dispatcher exact location of command post <input type="checkbox"/> Establish communications with off-scene help <input type="checkbox"/> Brief commander(s) <p>Notification and Technical Assistance</p> <ul style="list-style-type: none"> <input type="checkbox"/> 9-1-1 (or Local Emergency Phone Number) <input type="checkbox"/> EM OPS Center 1-800-858-0368 <input type="checkbox"/> State Agencies: 1-800-662-7956 (State Warning Point) <input type="checkbox"/> Federal agencies: 1-800-452-8802 (National Response Center) <input type="checkbox"/> Industry: 1-800-424-9300 (CHEMTREC) <input type="checkbox"/> Emergency Medical Advice: 1-800-672-1697 (Poison Control Center) <p>PROVIDE THE FOLLOWING INFORMATION IF POSSIBLE:</p> <ul style="list-style-type: none"> - <input type="checkbox"/> Your name, agency, location and call back number - <input type="checkbox"/> Type of material involved, characteristics, physical state, physical effects - <input type="checkbox"/> Amount of material released, duration of release, total amount that may be released - <input type="checkbox"/> Whether significant amounts of substance appear to be entering the atmosphere, nearby waters, storm drains - <input type="checkbox"/> Direction, height, color, odor of vapor clouds or plume - <input type="checkbox"/> Weather conditions, local terrain conditions, wind direction - <input type="checkbox"/> Injuries, contamination, exposure - <input type="checkbox"/> Responsible party - <input type="checkbox"/> Personnel on scene <p>ON-SCENE INCIDENT COMMANDER (OIC)</p> <p>Determine the On Scene Incident Commander</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clearly identify yourself as OIC
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Figure 2: Burke County Emergency Management Hazmat Response Plan (cont.)

<ul style="list-style-type: none"> <input type="checkbox"/> Make sure Command Post is at a safe location <input type="checkbox"/> Establish unified command, if appropriate, with agencies on scene <input type="checkbox"/> Identify lead state agency, if any <input type="checkbox"/> Establish staging areas for equipment, medical treatment <input type="checkbox"/> Assure notifications made <input type="checkbox"/> Determine assistance needed from other agencies <p>Determine the Hazard</p> <ul style="list-style-type: none"> <input type="checkbox"/> Check placards, shipping, etc. <input type="checkbox"/> Use reference books and off-scene help (i.e. Emergency Management, Fire Marshal, CHEMTREC, etc). <input type="checkbox"/> Identify hazardous material, estimate threat to the population and environment <input type="checkbox"/> Determine wind speed and direction <input type="checkbox"/> Determine downwind, downstream, and down slope exposures <input type="checkbox"/> Identify ignition sources <input type="checkbox"/> Use available detection equipment <p>Provide for Personnel Safety</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ensure the use of proper personal protective equipment <input type="checkbox"/> Evaluate need for further evacuation <input type="checkbox"/> Document personnel exposure <input type="checkbox"/> Appoint a Safety Officer <p>Assign Personnel Responsibilities (as appropriate)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Staging _____ <input type="checkbox"/> Evacuation _____ <input type="checkbox"/> Rescue _____ <input type="checkbox"/> Traffic and crowd control _____ <input type="checkbox"/> Containment _____ <input type="checkbox"/> Fire suppression _____ <input type="checkbox"/> Public information _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Communications _____ <input type="checkbox"/> Safety _____ <input type="checkbox"/> Emergency Medical _____ <input type="checkbox"/> Documentation _____ <p>Evaluate Control Line and Revise (if necessary)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use tape, rope, fire-hose, etc. <input type="checkbox"/> Leave a margin of error <p>Incident Management</p> <ul style="list-style-type: none"> <input type="checkbox"/> Develop incident action plan <input type="checkbox"/> Oversee incident operations <input type="checkbox"/> Coordinate activities with EOC, Communications Center, etc., as appropriate <p>Decontamination</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assign decontamination area officer and team <input type="checkbox"/> Identify people and equipment possibly exposed <input type="checkbox"/> Set up decontamination area procedures <p>EVACUATION / SHELTER ACTIVITIES: (COMMAND POST)</p> <p>Determine Danger Area</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify people and facilities in danger area. <input type="checkbox"/> Decide between evacuation or shelter. (What will best reduce exposure). <input type="checkbox"/> Determine size of spill <input type="checkbox"/> Determine plume direction <input type="checkbox"/> Identify people and facilities in danger area <p>Decide between evacuation and / or shelter in place. (What will best reduce exposure.)</p> <p>Begin warning and/or evacuation procedures for those nearest the accident site. Work outward from the accident site.</p> <p>Notify necessary support agencies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Law enforcement agencies <input type="checkbox"/> Local T.V., Radio, Cable and Newspaper through the PIO
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Figure 2: Burke County Emergency Management Hazmat Response Plan (cont.)

<input type="checkbox"/> Telecommunicators	
<input type="checkbox"/> Emergency Management (Red Cross, County Public Health Department, Transportation Coordinator, County Social Services when rest homes, family care homes, or special needs groups are involved)	<input type="checkbox"/> Establish perimeter-using rope, barricades, vehicles, etc. (Note: avoid flares if any indication that combustible or flammable chemicals are present)
EMERGENCY MEDICAL SERVICES (EMS)	<input type="checkbox"/> Reroute pedestrians and vehicles around perimeter - keep onlookers, news media and others from excluded area
<input type="checkbox"/> Be aware of dangers	<input type="checkbox"/> Request additional assistance as needed
<input type="checkbox"/> Take proper precautions to protect yourself when handling casualties	<input type="checkbox"/> Be prepared at the request of the OIC, to remove persons hindering emergency operations
<input type="checkbox"/> Coordinate actions with OIC (Command Post)	<input type="checkbox"/> Reopen evacuated areas at the determination of Command Post
<input type="checkbox"/> Identify medical risks to victims and emergency responders	PUBLIC WORKS/UTILITIES
<input type="checkbox"/> Establish medical triage area, if necessary	<input type="checkbox"/> Coordinate activities with OIC
<input type="checkbox"/> Determine and establish appropriate treatment	<input type="checkbox"/> Be prepared to assist with traffic control, providing barricades, etc.
<input type="checkbox"/> Coordinate emergency transportation	<input type="checkbox"/> Be prepared to provide sand for absorption and diking
<input type="checkbox"/> Coordinate with hospital and medical personnel	<input type="checkbox"/> Be prepared to cut off power, gas, water, etc., as required
<input type="checkbox"/> Coordinate with Red Cross Mass Care Coordinator and/or EOC logistics regarding medical services required by evacuees	PUBLIC INFORMATION OFFICER
<input type="checkbox"/> Decontaminate personnel - victims and equipment as needed	Initial Actions
<input type="checkbox"/> Help question/examine responding personnel on state of health and treat as required	<input type="checkbox"/> Work with OIC on press releases
<input type="checkbox"/> Identify yourself to OIC as representing public health.	<input type="checkbox"/> If necessary, contact local media and inform them of nature of the emergency and other pertinent information, as appropriate.
<input type="checkbox"/> Coordinate with medical services	<input type="checkbox"/> Set up press briefing area as close to the command post as possible, but in such a way that it does not interfere with the command post.
<input type="checkbox"/> Confirm health hazard	<input type="checkbox"/> Establish both incoming and outgoing telephone communications at the press briefing area, if possible.
<input type="checkbox"/> Provide medical monitoring of emergency personnel as needed	<input type="checkbox"/> Be available to supply information to press, on request.
PUBLIC HEALTH	<input type="checkbox"/> Periodically get status summary from OIC.
<input type="checkbox"/> Investigate toxic levels of materials involved	Long Term Actions (if required)
<input type="checkbox"/> Confirm evacuation area perimeters	<input type="checkbox"/> Coordinate press releases with involved agencies
<input type="checkbox"/> Insure no biological agents involved (contact N.C. Division of Health if biological agents involved)	<input type="checkbox"/> Coordinate with State and Federal PIOs
<input type="checkbox"/> Work with State and Federal agencies to address environmental health/sanitation impacts	<input type="checkbox"/> Be the direct liaison with all the news media
LAW ENFORCEMENT	<input type="checkbox"/> Do follow-up after the emergency is over for evaluation purposes
<input type="checkbox"/> Determine with the Officer-in-Charge on the need for an exclusion perimeter, and the distances to establish traffic control	<input type="checkbox"/> Offer ongoing contact with media for wrap-up stories.

6- Monitoring and Priority Areas

6.1 - Monitoring

The following is a summary of fecal coliform monitoring in the Lower Creek Watershed as provided by the NC Ecosystem Enhancement Program.

Lower Creek Fecal Coliform Bacteria Source Identification Study

Andrea Leslie, Watershed Planner, 18 April 2012

NC Division of Water Quality (DWQ) and the Lower Creek Advisory Team (LCAT) have been involved in efforts to characterize fecal coliform bacteria levels and sources since 2009. This document summarizes these efforts to now.

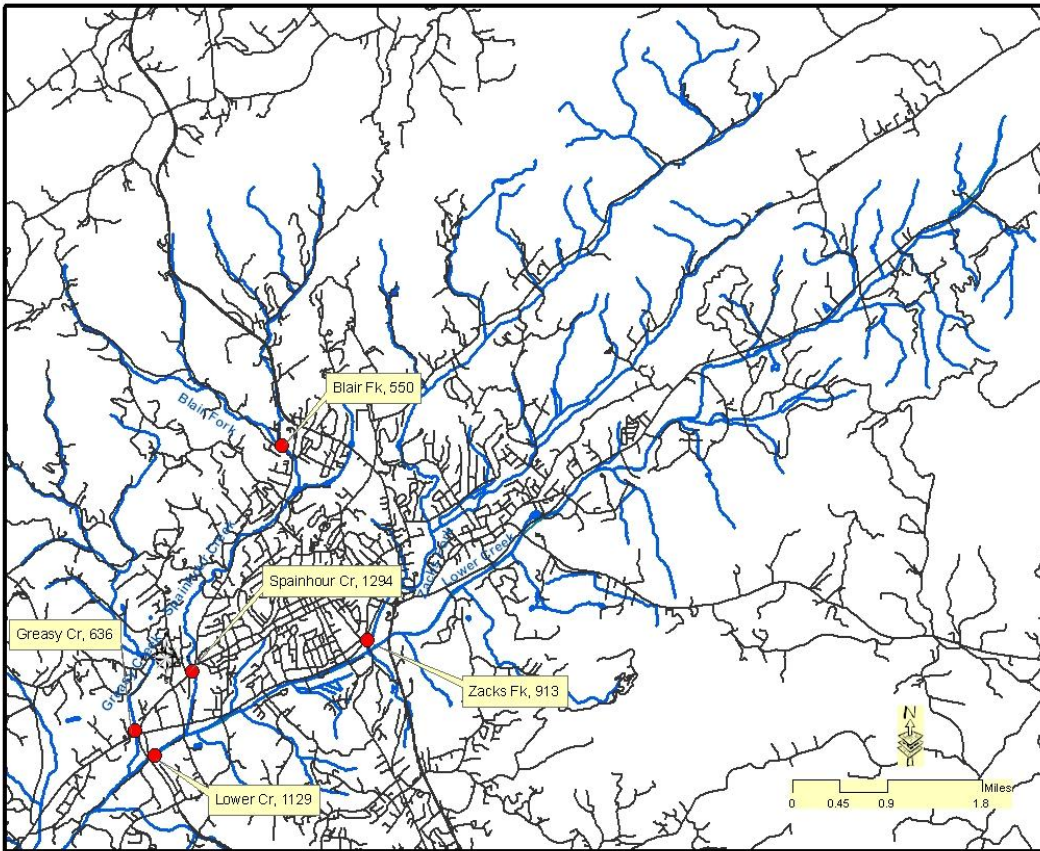
Assessment work performed in 2004 and 2005 for the Lower Creek Local Watershed Plan revealed that fecal coliform bacteria levels were high in Lower Creek and its tributaries in the Lenoir area. Fecal coliform bacteria were identified as a key stressor in the Lower Creek Watershed Management Plan in 2006, and the report stated that one source of these bacteria was the City of Lenoir's wastewater collection system, which had problems with sewer overflows and leaks (MACTEC et al, 2006).

In 2005, the City of Lenoir completed a sewer improvement project that was hoped would address some of the chronic fecal bacteria problems. In order to determine if there had been an improvement in bacteria levels, DWQ staff monitored fecal coliform bacteria in September 2009 in five streams (Lower Creek, Zacks Fork, Blair Fork, Spainhour Creek, and Greasy Creek) that had high levels during the initial 2004-2005 work (Map 8).

In order to directly apply the monitoring results the state standard of 200 colonies/100 mL, five samples were collected at baseflows during a 30-day period. All sites had fecal coliform bacteria levels above the state standard, and levels were generally just as high as those sampled in 2004-2005 (Tyndall, 2009). Due to the standard exceedences, all five streams are on NC's draft 2012 303(d) list of impaired streams (see

http://portal.ncdenr.org/c/document_library/get_file?uuid=2dbffc77-1c7b-4979-9b60-4cd2a06094af&groupId=38364).

Map 9: 2009 Fecal Coliform Bacteria Geometric Means



Spainhour Creek and Blair Fork surveys

In 2010, LCAT decided to make tracking sources of these fecal bacteria levels a priority. Spainhour Creek and Blair Fork were selected to further investigate, since a majority of Spainhour Creek and some of Blair Fork are urban, and stream walking would be easiest here, as the LCAT determined that obtaining prior landowner permission in urban areas wouldn't be necessary. DWQ began by collecting three baseflow samples in the summer of 2010 throughout the watersheds of Spainhour Creek and Blair Fork in order to determine where levels were highest. Of note is that fecal coliform bacteria levels are often high in summer months, when water temperatures are warmer, and bacterial activity is high. The highest levels were found in lower Spainhour Creek and lower Blair Fork (Figure 2).

Streamwalking was then performed by LCAT members on Spainhour Creek between its confluence with Lower Creek and its confluence with Blair Fork. This stretch of stream is urban and landowners were not notified personally before the stream walks. Stream walking was performed in pairs, and staff GPSed sites of interest, including stormwater pipes, tributaries, and any possible hot spots, collecting water samples for fecal coliform bacteria analysis on tributaries and in suspicious areas. Data from this work are in a separate Excel spreadsheet, titled 'fecalsourcetrackingdata_sept2010.xlsx'.

Two specific hot spot areas were determined on Spainhour Creek, consisting of a stormwater pipe that smelled strongly of sewage and a possible leaking septic field. (see Figures 3, 4, and 5). Warren Depree, the Lenoir stormwater program lead, agreed to follow up on these areas, but he left his job soon after this and was not able to follow up.

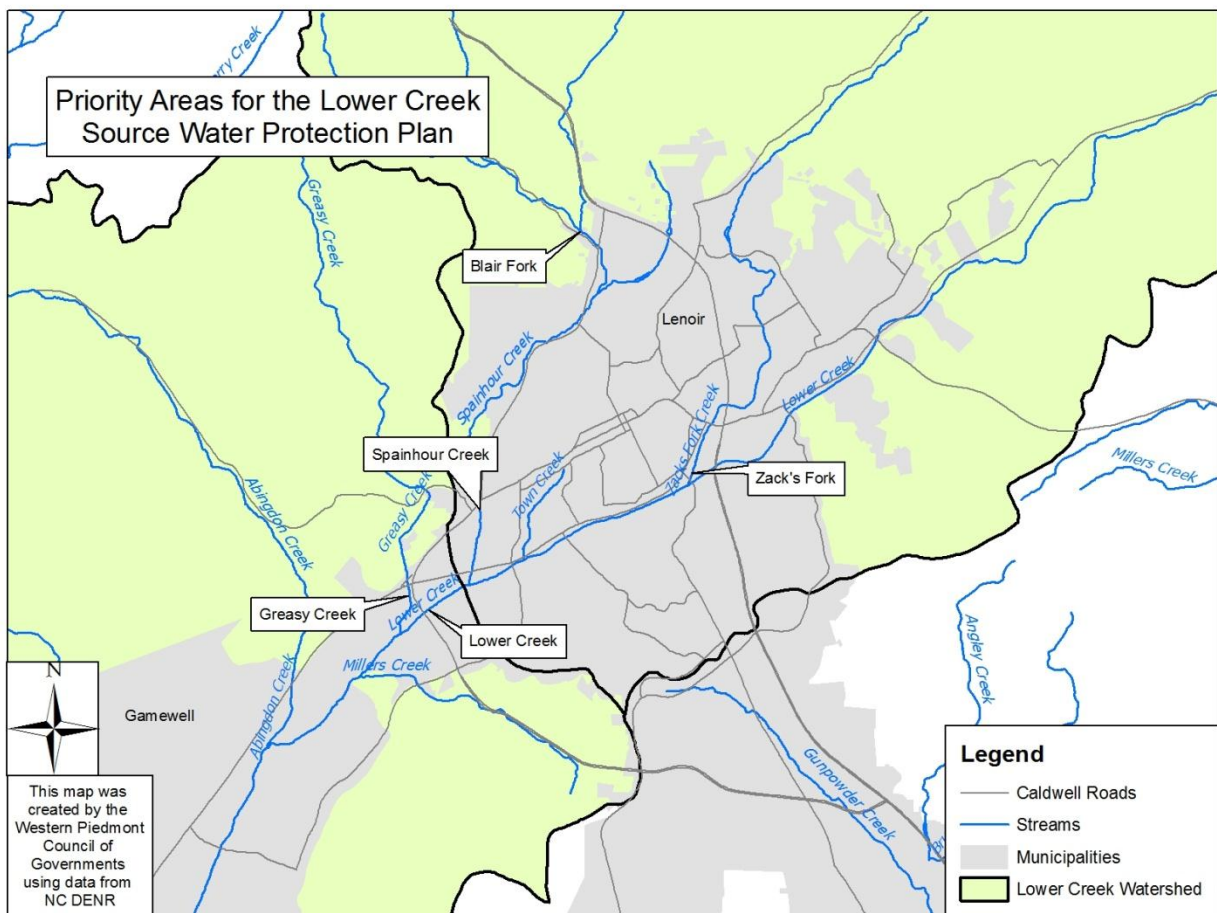
In addition, the stretch of UT to Spainhour Creek (which crosses US 321 and had a geometric mean of 810 colonies/100 mL in summer 2010—see Figure 2) was walked. Bacterial levels were still high upstream of US 321, where the stream originates in a densely populated neighborhood. It was recommended that door to door surveys for possible septic/straight pipe problems be performed in that neighborhood.

6.2 - Priority areas

Priority areas listed in the Lower Creek Watershed Management Plan are referenced in Section 4.2 of this document and outlined in full in the original plan in Appendix A. New priority areas for source water protection are based on the monitoring data provided in Section 6.1 by the Ecosystem Enhancement Program.

The priority areas for the Lower Creek Source Water Protection Plan will be used for the strategies that can be applied to specific locations, including further monitoring, Unifour Septic System Repair Program and further monitoring of fecal coliform sources.

Map 10: Priority Areas for the Lower Creek Source Water Protection Plan



ECP recommends that the following steps be taken in these priority areas:

- DWQ staff are currently sampling the Zacks Fork and Blair Fork watersheds to determine problem areas. Blair Fork is being resampled, as stream walking was not performed in 2010 and more recent data are needed to isolate problem areas. If problem areas are isolated in more urban portions of these subwatersheds, these streams should be stream walked by LCAT teams as in 2010.

- Hot spots in Spainhour Creek should be investigated.
- LCAT should brainstorm how to determine fecal coliform sources in Greasy Creek and Lower Creek. As mentioned above, Greasy Creek is primarily rural residential, and stream walking may be quite difficult, as landowner permission is advised in this sort of area. In addition, Lower Creek is large and deep, and sources may be isolated but may require the use of canoes or kayaks.

7 – Strategies

7.1- Existing Strategies

Staff from the Western Piedmont Council of Governments (WPCOG) and the NC Ecosystem Enhancement Program (EEP) presented the plan to all elected government boards in the Lower Creek Watershed in 2006. The Plan met with approval by all local governments. The level of acceptance varied but no outright rejection of the most controversial recommendations was noted. The degree of implementation also varied and has not been accurately ascertained.

1. Adopt the Lower Creek *Watershed Management Plan* as a supplement to comprehensive plans.

Land use refers to how a tract of land is utilized, whether it is designated residential, business, or for undeveloped uses like agriculture or open space. Local governments tend to categorize their developed uses in the zoning ordinance, with open space being up to the owners of the property. However, a local government can require open space be set aside, as long as a property owner has use of their property.

Much of the time, these restrictions can be outlined in a comprehensive plan and then set forth in a subdivision or zoning ordinance. A local government may require a new subdivision to have open space set aside, or may allow more clustered development for open space in return. Municipality, county, state and federal government all play a role in implementation of Ordinances, especially with respect to environmental concerns.

Long Range and Comprehensive plans are developed and updated periodically by local governments, either internally by existing staff under or contract with the WPCOG or a private consulting firm. As plans get updated it is hoped there will be more integration of these strategies.

2. Develop comprehensive stormwater management ordinances.

EPA's Stormwater Phase II Ordinance is intended to improve water quality by reducing the number of pollutants that are picked up by stormwater, carried into municipal separate storm sewer systems (MS4s), and ultimately discharged into local rivers streams without being treated. These pollutants can include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. These pollutants can impair the waterways when deposited through MS4 discharges and discourage recreational use of the resource, contaminate drinking water supplies, and interfere with the habitat for fish, other aquatic organisms, and wildlife.

The following are the Six Minimum Measures of a Stormwater Phase II Ordinance as outlined by EPA:

- (1) **Public Education and Outreach** Distributing educational materials and performing outreach to inform citizens about the impacts polluted storm water runoff discharges can have on water quality.
- (2) **Public participation/Involvement** Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a storm water management panel.
- (3) **Illicit Discharge Detection and Elimination** Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).
- (4) **Construction Site Runoff Control** Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb one or more acres of land (controls could include silt fences and temporary storm water detention ponds).
- (5) **Post-Construction Runoff Control** Developing, implementing, and enforcing a program to address discharges of post-construction storm water runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.
- (6) **Pollution Prevention/Good Housekeeping** Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

Some municipalities in Burke and Caldwell have been required to adopt the ordinances based on North Carolina's Model Ordinance, which can be found at http://h2o.enr.state.nc.us/su/phase_2_mod_ord.htm. The Water Resource Committee has appointed a Stormwater Working Group (SWWG), which has been voluntarily assisting Phase II Stormwater communities in the region for nearly a decade. The City of Lenoir has staff for stormwater who fulfills the stormwater requirements for the towns of Gamewell and Lenoir.

The Stormwater Working Group (SWWG), an active subcommittee of the Western Piedmont Water Resources Committee, was formed in 2009 to work cooperatively and synergistically to assure consistent implementation of program components throughout our region and to share expertise and other resources. This staff level group supported by the WPCOG has worked without project specific funding to support this endeavor, through: facilitating meetings; assistance in preparing annual reports; developing workshops; arranging speakers and seminars;

preparing outreach materials and presenting to various groups and at events. The SWWG has been voluntarily assisting Phase II Stormwater communities in the region for nearly a decade.

In order to better fully implement stormwater permits and management plans throughout the region in conjunction with current Phase II Programs it is recommended that there be better coordination between ongoing projects and resources in the Rhodhiss watershed. In order to do this, it is important to develop an organizational structure that works best to achieve collaboration and allows coalition members to remain independent organizations.

No Stormwater utility is currently found in the region. Caldwell County has rescinded their permit in 2009 and is not currently implementing a stormwater program. The Stormwater Programs that are functioning are not adequately funded and staffed, so ongoing training for Stormwater Staff and Public Service personnel is needed.

3. Amend subdivision ordinances to promote Low Impact Development and other measures that limit development impacts.

Development activities that slow the flow of water and replicate natural hydrologic systems are referred to as “Low Impact Development” (LID) measures. This includes activities that minimize impervious cover, incorporate stormwater management BMPs and have less impact upon the natural environment.

LID utilizes techniques such as

- Cluster development to maximize open spaces,
- Stormwater management measures that control and/or treat the runoff produced by urbanization include:
 - Grassed swales,
 - Bio-retention cells
 - Permeable pavement.
 - Narrower pavement width on subdivision streets
 - Use of grass swales, rather than traditional curb and gutter

For more information on LID techniques and strategies and learning opportunities, visit the NC State University site on Low Impact Development at: <http://www.bae.ncsu.edu/topic/lid/>.

These techniques can conflict with current subdivision standards, requiring some changes in ordinances to accommodate this type of development. Some jurisdictions have mandated that LID measures be utilized in the development of particularly sensitive areas. Local governments should also examine current regulations to ensure that they do not encourage impervious cover.

Caldwell County has had minimal Planning staff since 2009, so working on amendments may have to take place down the road. Staff at the Western Piedmont Council of Governments has been certified in LID and have had LID training sessions at the WPCOG. Additionally, staff at the WPCOG have been certified in using a LID audit tool developed by the Center for Watershed Protection, but have yet to have a local government request an audit.

Both Caldwell and Burke Counties have promoted the protection of environmentally sensitive areas in certain instances, such as in the Lake James small planning area in Burke County and any area proposed as a “planned unit development” in Caldwell County. Both counties should amend their subdivision ordinances to specify LID and to require open space, setting aside sensitive areas, including floodplains and steep slopes, from development.

For examples of Ordinances that have a Low Impact Development component see Appendix C in this Plan.

4. Adopt and enforce more comprehensive riparian buffer ordinances.

It is recommended that each local government having jurisdiction over the Lower Creek local watershed adopt and enforce ordinances that extend the Catawba River main stem protection of 50-foot vegetative buffers to the perennial and intermittent streams that comprise the watershed, and to encourage more streamside areas left undeveloped or restored with functioning buffers. It is also important to develop and promote incentives for non-agricultural, smaller property owners who voluntarily establish and maintain buffers along streams within the watershed and to educate landowners on the environmental and tax benefits of establishing riparian buffer.

Burke and Caldwell County, as well as the municipal governments within their boundaries, have adopted land use ordinances that affect water quality. Both Counties taken over monitoring and permitting for Sedimentation and Erosion from the State, as well as adopting a Buffer Requirement Ordinance that requires a minimum 60 foot buffer along riparian waterways. Other ordinances adopted by the local governments include Water Supply Watershed Ordinances (WS-I, WS-II, WS-III, and WS-IV), a Stormwater Phase II Ordinance, and the Flood Damage Prevention Ordinance (FDPO).

Greenways are useful for recreational, educational, wildlife, and transportation purposes, but they can also be used to establish much needed riparian buffer along waterways in the Lower Creek Watershed. An additional benefit is increased public access to the waterways which in turn provide more eyes to report potential problems and an increased public awareness. Often easements or fee-simple purchase of riparian buffers on waterways can be turned into greenways, and can sometimes be the catalyst for protection of the waterways. There is one major Greenway project in the watershed in Lenoir.

City of Lenoir Greenways. The Lenoir Greenway includes a 7.3 mile system of paved trails that allow for walking, biking, jogging, skating, and more on 25 acres. A major section of the trail is the Town Creek Greenway which consisted of two phases. The first phase was a ½ mile walking and bike trail located on Broadway (Highway 11) that connects to Rock Spring Park.

Phase II of the Town Creek Greenway system was completed in 2006. The additional trail will began at the Rock Springs Park area, run along the creek through the Wampler Keith Park and commence at the Lenoir City Middle School property. It ends adjacent to the new Lenoir City Swimming Pool Complex. Phase II added approximately 1.25 miles of trail to the greenway which made the total length 1.75 miles one way.

5. Monitor compliance with and enforcement of erosion and sedimentation control ordinances.

In order to determine if Sedimentation and Erosion Control Ordinances are being effectively enforced, there needs to be a review of current policies related to sedimentation and erosion control regulatory and oversight processes and a plan implemented to promote corrective action for deficiencies.

Caldwell County developed a local sediment and erosion control ordinance in compliance with the State's Sedimentation Pollution Control Act of 1973 (SPCA) and assumed responsibility for implementation of the requirements of the SPCA within all of Caldwell County in October 2007. In early 2009, in an effort to reduce costs by eliminating staff necessary to operate the program, Caldwell County returned administration of the Sediment and Erosion Control Program to the DENR Division of Land Resources, Asheville Regional Office.

Currently, Burke County does not intend to assume a local sediment and erosion control program and depends on the State's program to enforce sedimentation and erosion control regulations.

6. Develop steep slope ordinances.

Development on steep slopes is of particular concern in Caldwell and Burke Counties. Counties should consider a steep slope ordinance, which would prohibit or limit development on steep slopes. The Town of Boone adopted a Steep Slope Ordinance on October 2, 2006.

A brochure describing their program can be found at this link:

http://www.townofboone.net/departments/development/pdfs/TOB_Steep_Slope_Brochure.pdf

The Land of Sky Regional Planning Agency has prepared a document called "Mountain Ridge and Steep Slope Protection Strategies" at the following link:

<http://www.climatechange.nc.gov/PDFs/LandofSky-MRSSPS-report%205-28-08.pdf>

For examples of Ordinances that have a steep slope component, see Appendix C in this Plan.

Efforts to develop State level regulations failed when a bill was introduced by the Senate in 2009 (HB 1870) that was not adopted.

7. Amend ordinances to prohibit development in the 100 year floodplain.

FEMA has required that all local governments adopt a Flood Damage Prevention Ordinance (FDPO) if they want to be eligible for the National Flood Insurance Program. The purpose of the FDPO is to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas.

Within the Lower Creek watershed, the floodplain has been utilized for commercial or industrial development. The City of Lenoir, Gamewell, and Burke and Caldwell Counties have adopted floodplain management ordinances, but restrictions of the floodplain are permitted as long as structures are constructed at a specified level above the flood elevation.

Revised floodplain maps from the Federal Emergency Management Agency have been developed in 2010 and adopted with new remote sensing imagery. County and municipal jurisdictions should reevaluate floodplain areas based on these new maps and allow no development or filling in the 100 year floodplain.

WPCOG staff was certified as Flood Plain Administrators by FEMA in 2011.

8. Develop a robust public education program.

In 2007, the Lower Creek Technical Advisory Committee recommended the following four elements for a public education program in the subwatershed (As written in the Lower Creek Watershed Management Plan in Appendix A):

Establish a Clear Water Contractor Program. Clear Water Contractor programs have been applied to a number of areas in western North Carolina. RiverLink (<http://www.riverlink.org/>), a watershed group that seeks to revitalize the French Broad River watershed, provides Clear Water Contractor workshops to contractors on appropriate sedimentation and erosion control measures to apply during site preparation and development. Caldwell and Burke Counties could each establish its own Clear Water Contractor program. Once Clear Water Contractor Programs are in place it could offer developers reduced erosion control permit fees if their staff attended the training. County's could offer incentives for participation, providing quicker review of development plans (e.g., subdivision plats) for those who complete the course. NCSU

Identify and quantify the economic effects of poor water quality in the watershed. Economic effects of poor water quality should be quantified and shared with decision-makers and citizen groups. The Western Piedmont Council of Government (WPCOG) has developed presentations that cover drinking water, wastewater, property loss/degradation and other costs.

Develop print material outlining steps citizens can take to protect water quality in the watershed. The WPCOG has developed a brochure that will be used by local governments in Burke and Caldwell Counties to assist them with meeting the new NPDES Phase II stormwater requirements. This should be made available with area citizens.

Establish a local watershed council. A watershed council could serve as a local voice for issues affecting the Rhodhiss watershed. However, this will only be effective if it is staffed and developed with local citizens. Local government or resource agency staff could potentially play a vital role in supporting such a council from a technical standpoint

once a citizen-based group with a leader is established. This council could oversee a watershed stewardship program, which can be a very effective tool for gaining stakeholder consensus, engaging interested parties to keep “watch” over activities affecting the lake, and identifying a champion for various watershed improvement projects. The NCDENR supports such an organized watershed stewardship approach through its Stream Watch Program. A leadership team was formed as part of the Lake Rhodhiss Planning Project, that could somewhat fulfill the role.

The Lower Creek Advisory Team, especially the NCSU Science House, stormwater Programs, Caldwell Cooperative Extension, WPCOG and Burke/Caldwell County Soil and Water have taken the lead in promoting educational activities with the Lower Creek Watershed. The Lower Creek Coordinator was a funded position for the first three years after the plan. Improved outreach and education would benefit from a budget and funding for a coordinator.

Activities accomplished with respect to outreach and education can be found in the Lower Creek Watershed Management Plan final report found in Appendix B. This includes presentations to various groups as well as printed materials. A grant for outreach and education and updated planning has been on LCATS 2012 agenda.

9. Adopt a comprehensive watershed-based land use plan for the Lower Creek watershed to protect Lake Rhodhiss.

Long Range and Comprehensive plans are developed and updated periodically by local governments, either internally by existing staff under or contract with the WPCOG or a private consulting firm. As plans get updated there may be more integration of these strategies.

Some local governments in Burke, Caldwell and McDowell Counties have recently or are developing or revising their comprehensive land use plans. In addition, Caldwell County is developing its stormwater program in response to EPA’s Phase II Stormwater Management Permit requirements. It is therefore an opportune time to reexamine the institutional measures regulating land development aspects that have an impact on stream health. Additionally, the WPCOG has applied for additional watershed planning grants.

7.2- Lower Creek Watershed Management Plan Projects Update

10. Continue to support and seek funding for preservation, restoration and BMP projects outlined in the Lower Creek Watershed Management Plan.

The Lower Creek Watershed Management Plan prioritized subwatersheds were for restoration, preservation, or stormwater BMP activities based on functional integrity, degree of imperviousness, number of possible projects, and TAC recommendations. A set of 38 primary projects were identified within priority subwatersheds and include:

- 4 **Stream Preservation** sites, totaling 81,500 linear feet, or 15.4 miles
- 22 **Stream Restoration** sites, totaling 73,000 linear feet (post-construction), or 13.8 miles
- 2 **Wetland Preservation** sites, totaling 74 acres
- 3 **Wetland Restoration** sites, totaling 135 acres
- 3 combined **Wetland/Stream Restoration** sites, totaling 97 acres and 4,980 linear feet
- 4 **Stormwater BMP** sites, totaling 56 acres of BMP structures (ponds/basins; constructed wetlands; bioretention areas; permeable pavement)

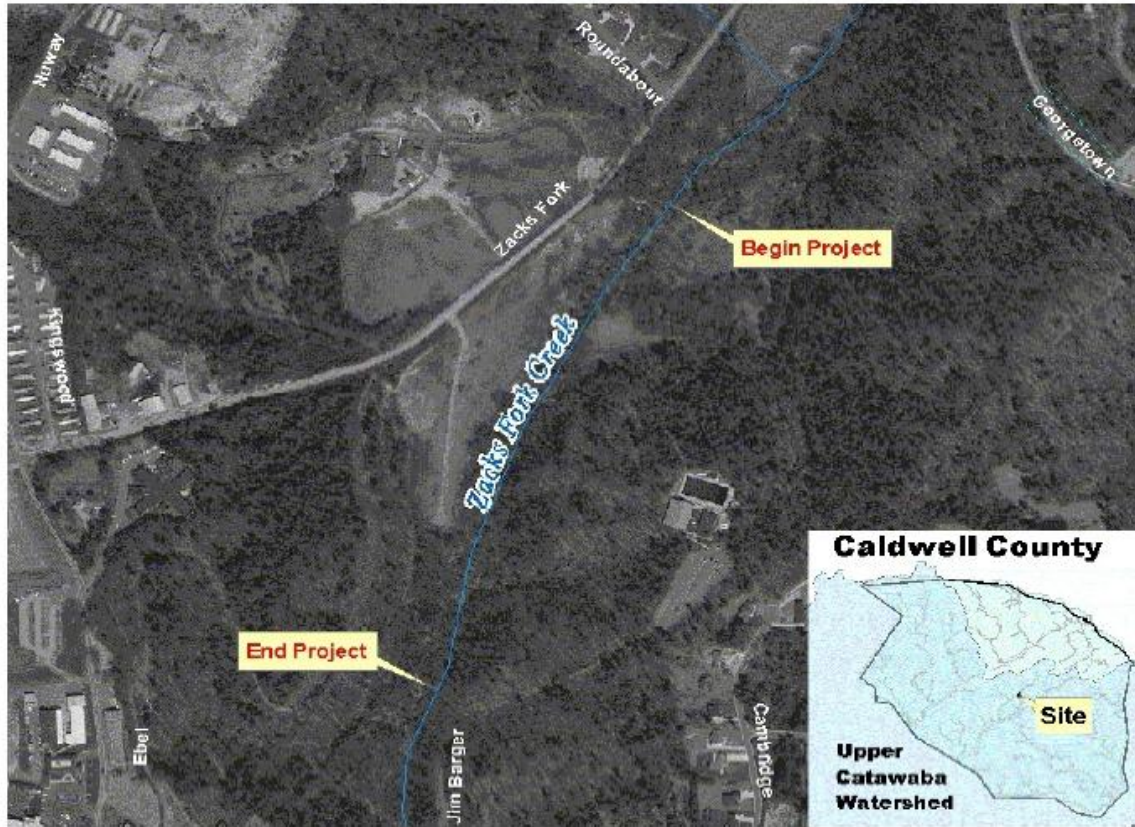
Zack's Fork Stream Restoration

The Zack's Fork Stream Restoration was a EEP-funded project in the Lower Creek watershed. It was a 3,900 linear foot stream restoration/enhancement project on Zack's Fork creek (implemented using a Full Delivery provider). The project site was located in Caldwell County, just north of Lenoir, near Zack's Fork (see Map 11). Due to the results of urban development, the stream had begun to incise, and would have continued to do so until it lowered form it's floodplain, causing higher energy flows. Improvements to the stream addressed deficiencies in dimension, pattern, profile, biological/chemical and sediment transport. The project was completed by EEP in September, 2005. The full report can be found at :

<http://portal.ncdenr.org/web/eep/interactive-mapping>

Map 11: Zack's Fork Creek

Zacks Fork Creek



BMPs installed in the Lower Creek Watershed

The following information comes from the Lower Creek Watershed Management Plan final report located in Appendix B.

Caldwell Soil and Water Conservation District and the Burke Soil and Water Conservation District implemented water quality Best Management Practices (BMPs) in the Lower Creek watershed to address water quality issues raised from the Lower Creek Watershed Management Plan (Ecosystem Enhancement Program, 2006) and the TMDL for turbidity in the Lower Creek Watershed. The overall goal of this project was to restore uses to at least two tributaries to Lower Creek. Lower Creek is impaired because of high turbidity levels. The following tributaries of Lower Creek including Lower Creek are 303(d) listed due to Impaired Biological Integrity: Greasy Creek, Spainhour Creek, and Zack's Fork Creek in Caldwell County and Bristol Creek in Burke County. Erosion and sedimentation from agriculture has been identified as a potential source of pollution to Lower Creek.

The Districts with this grant continued on-going efforts of working in the Lower Creek watershed to install best management practices (BMPs) according to the USDA’s Natural Resources Conservation Service technical standards that improved riparian zones and limited livestock access to the streams, for improved water quality. The Districts expanded efforts in the Lower Creek watershed with installation of storm water BMPs that decreased storm water runoff and thereby protected stream banks from erosive storms.

Below is a summary of the BMPs installed and grant dollars expended in the Lower Creek Watershed (2008-2012) with assistance from the 319 Grant:

Table 3 is a summary of the Best Management Practices that were prioritized in the Lower Creek Watershed Management Plan (Appendix A) and what was installed. Map 11 shows the locations of the BMPs.

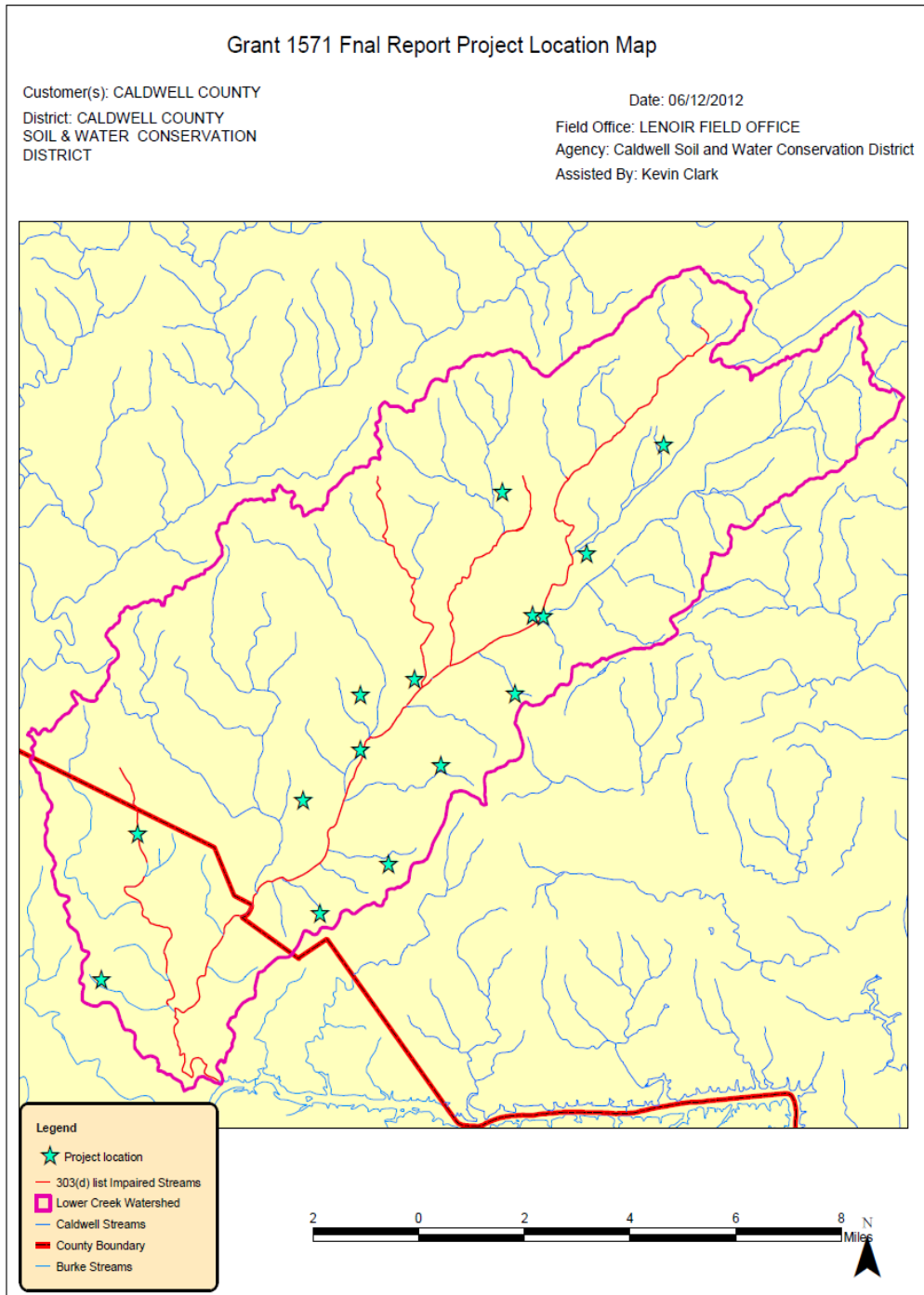
Table 3: Final Report BMPs installed

BMPs installed (#, Size, area treated):	
• Abandoned Well Closure	2 each
• Watering Facility	1 each
• Livestock Exclusion Fencing	3 @ 5,133 linear ft
• Filter Strip Repair	1 @ 8.9 acres
• Animal Trails and Walkways	1 @ 73 linear ft
• Pasture and Hay Planting	2 @ 34 acres
• Streambank Stabilization	2 @ 1,630 linear ft
• Stream Restoration	3 @ 614 linear ft
• Rain Garden	1 @ 375 square ft
• Critical Area Planting	1 @ 1.3 acres
• Stormwater Wetland	1 @ 12,000 square ft
• Cistern	1 @ 1,500 gallons

This work could not have been accomplished without a full-time watershed coordinator to oversee the project which was supported by grant funding for two years. Additional funding for a watershed coordinator was denied. The EPA and DENR want local support for staff to implement BMP program, but due to economic hardships local funding is not foreseeable in the near future. Work will have to be accomplished with reduced staffing levels.

To continue to implement the projects designated by the Lower Creek Watershed Management Plan, more funding will be required. Funding sources are found in Appendix D of this plan. Steps in acquiring funding include identifying funding sources most appropriate for each recommendation in the Plan, identifying project partners, developing pre-proposals for grant applications, and obtaining letters of support from partners as needed.

Map 11: Final Report Project Location Map



7.3- Source Water Protection Strategies

11. Continue and increase support for projects to identify and correct onsite residential sewage treatment systems.

Continue to operate and adequately fund the Unifour Septic Tank Repair Program. Work with local and state environmental health professionals to identify and correct failing systems.

Water quality in Western North Carolina is threatened by the discharge of untreated residential wastewater into streams, either through leaking septic tank systems or straight piping. Often, the homes identified as having wastewater disposal problems are located in low-income areas of the state and citizens cannot afford to make the necessary repairs. The WPCOG organized a program that targeted straight piping situations or faulty septic tanks by providing a grant or a loan to repair the home so that it meets compliance with NC environmental standards. The money lent out to fix septic tanks was supplied by grants in 1997 and 2004 from the NC Clean Water Management Trust Fund. The low-interest loans are repaid over five years and designed to perpetuate the repair program and thus, help NC citizen make repairs to their home they would have been unable to afford otherwise. Approximately, 300 home systems were repaired or replaced through this program, approximately 50% in the Lake Rhodhiss watershed. There is obviously a need for a program of this nature, as attested to by the regular calls for assistance from homeowners and the local environmental health inspectors. Unfortunately only 15% of the loans were recovered and the program ceased in early 2007.

The WPCOG has continued to operate and try to acquire adequate funding for the Unifour Septic System Program, and the WPCOG has restructured the prior program to more efficiently distribute funding and administer the program. A new grant was recieved in October 2011 and will begin repairs in late 2012. The program will be more highly concentrated in the priority areas listed in Section 6.2.

12. Continue water quality monitoring to identify problem areas and document improvements. Incorporate a volunteer monitoring component and alternative monitoring methods.

Collection of water quality data should occur periodically within priority areas listed in Section 6.2. A cost effective way to accomplish the monitoring would be to incorporate a volunteer monitoring component, though training, coordination and quality control of volunteers would be needed. A couple of possibilities include the Catawba River Foundation Covekeeper and Lenoir Rhyne University's Reese Institute for the Conservation of Natural Resources has some student macro invertebrate sites that can be utilized for monitoring water quality as well.

Efforts to establish a water monitoring consortium for the Upper Catawba have met with resistance due to increased cost to NPDES Permit Holders.

13. Create education and outreach program in the agricultural industry to promote use of BMP's.

Conservation assistance is provided by Soil and Water Conservation District (SWCD) Offices. Burke and Caldwell Counties have an office in each county with individual Elected Boards but are covered by the same shared staff.

Significant conservation work has been done through USDA programs. The Natural Resources Conservation Service (NRCS) provides technical assistance and program administration for the Environmental Quality Incentives Program (EQUIP), Wildlife Habitat Incentives Program (WHIP) and Wetlands Restoration Program, while the Farm Services Agency administers the Conservation Reserve Program. The Land and Lakes Resources Conservation and Development (RC&D) Council, which works as a non-profit organization in association with the NRCS and SWCD programs, has also worked with the agricultural industry, but since losing funding for the director's position, they have had less activity.

Concerns about new logging operations to being in the GLOBE area of Caldwell county in the near future are of concern. The timber removal itself may become a source of additional soil erosion in the Upper Johns River subwatershed. However, of potentially greater concern is the cutting of new roads in the steep terrain that may also contribute to increased soil erosion in this very undeveloped watershed. We recommend local groups stay informed and work with the Division of Forest Resources insure proper BMPs are employed to minimize any water quality impacts from this logging activity.

The NCSU Cooperative Extension Service should continue to work with the ornamental nursery industry to promote use of BMP's (drip irrigation, cover crops, soil testing, No till techniques), identify ornamental nursery owners interested in projects that involve installation of BMP's for data and monitoring, educate property owners on tax incentives and their rights as landowners for establishing conservation easements on their property, develop and promote incentives for property owners who establish and maintain buffers along streams with intensive agriculture activity and purchase conservation easement or fee-simple acquisition along waterways within the watershed.

Examples of Agricultural BMPs can be found in the Lower Creek Watershed Management Plan found in Appendix A.

14. Improve monitoring and detection of potential leaks in sewage collection systems.

The review of affected collection lines would involve review of cleaning, inspections, and SSO records and reports. Sanitary sewers were designed and built to carry wastewater from domestic, industrial and commercial sources, but not to carry storm water. Nonetheless, some storm water enters sanitary sewers through cracks, particularly in older lines, and through roof and basement

drains. Alternately, leaks in the lines could potentially drain into and contaminate water sources within the Lower Creek Watershed.

Sewer lines that are in operation with the priority areas listed in Section 6.2. These areas should be should be monitored to determine if any sewer line leaks are responsible for fecal coliform hot spots.

15. Work with local governments and other relevant organizations to begin county wide Hazardous Waste Drop-off program.

A household hazardous waste drop-off program can be instrumental in reducing the amount of these hazardous materials that can end up in drinking water sources. This can include giving residents the ability to easily drop off these materials on just a few scheduled days a year or at convenience centers with appropriate collection systems.

NC DENR Division of Waste Management provides guidance and provides an application for municipalities to begin a county-wide Household Hazardous Waste Drop-off day. This information can be found at: <http://portal.ncdenr.org/web/wm/sw/hhw>.

Catawba County and the City of Hickory have had a successful program, allowing drop-offs twice a year at alternating locations in the county. For more information on this program, contact:

Amanda Kain
Waste Reduction Coordinator
Phone: 828-465-8217
AmandaK@catawbacountync.gov

16. Work with local health department and other relevant organizations to begin a prescription drug drop-off program.

Prescription medications have been showing up in drinking water sources in trace amounts as so-called “emerging contaminants.” In order to prevent this, it is recommended that counties and local government help advertise programs already in place, as well as expand the current program.

The Lenoir Police Department currently has a Drop Box for medications that can be used year round. The intent of the program is to provide citizens with a convenient way of disposing of unneeded medications, thereby reducing the possibility for accidental or intentional misuse and providing an environmentally safe alternative to disposing of medications in community landfills and sewer systems. The program only accepts medications from home, and not from businesses or pharmacies. The drop box is currently located at:

1035 West Avenue NW, Lenoir NC
Monday - Friday (except holidays)

7:30 AM - 5 PM
828-757-2121

Prescription drug drop off can also be done in conjunction with a household hazardous waste drop-off day. Catawba County currently does this.

17. Increase awareness and encourage participation in local stream clean-up programs.

This voluntary program involves members of the community in a hands on activity to clean up surface waters. Local citizen groups adopt a waterway, or a portion of one, and become informed stewards, learning how to react to the changing stream conditions. There are more than 200 existing Stream Watch groups in North Carolina, however, non are active in our region. They are composed of elementary school students, scout troops, businesses, and retirement groups. Stream Watch groups can be started from scratch or existing organizations can adopt streams; they are asked to conduct two visual monitoring and litter clean up sessions per year. They also are encouraged to become the local experts on their streams' dimensions, history and wildlife, and act on behalf of the streams' best interests. For more information, go to http://www.ncwater.org/Education_and_Technical_Assistance/Stream_Watch or contact the N.C. Division of Water Resources at (919) 715-5433.

The WPCOG and Cooperative Extension 4-H have sponsored groups in the past. NC Big Sweep takes place annually on the Catawba River and NC DOT Litter Sweep Week takes place bi-annually along roadways.

Stream clean-ups should also be focused on Lower Creek and its feeder streams located in the Lower Creek watershed. There aren't currently any programs or activities that take place in these areas.

18. Abandonment requirements/Brownfield programs for Potential Contaminant Sources.

Most underground storage tanks (USTs) are regulated, which means they must be monitored for leaks, be protected from corrosion, and have spill and overflow prevention equipment. When regulated tanks are no longer being used, a site assessment must be performed and the tank must be either removed from the ground or permanently closed in place. However, there are a few notable exceptions to these regulations.

The State of North Carolina does not require that non-regulated USTs be removed from the ground once they are no longer in operation. Additionally, soil samples are not required unless it is obvious that a release has occurred. However, a tank owner is advised to empty a nonregulated tank once it is no longer being used to limit the chances of a release.

Local governments in the Lower Creek watershed should explore programs that set requirements for closing facilities and clean up, especially for sites housing potential pollutants. Attention should also be paid to proper sealing of abandoned wells.

Funding for petroleum brownfields can also be obtained for clean up and reuse of old gas stations. More information can be found at:
<http://www.epa.gov/oust/petroleumbrownfields/index.htm>.

8 – Recommendation Tables

The following pages summarize the recommendations in tabular form. The recommendation tables are meant as a reference for the strategies that should be implemented in the Lower Creek Watershed.

The information in the recommendation tables contains additional information that may not appear in narrative sections of the plan, such as: costs estimates, potential partners and roles, performance indicators and estimated load reductions.

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 1*

Strategy: Adopt the Lower Creek *Watershed Management Plan* as a supplement to comprehensive plans.

Strategy Narrative: Local governments should adopt the Lower Creek Watershed Management Plan, as well as it's supplement, the Drinking Water Source Water Protection Plan into their comprehensive/master plans, and base future policy and land use planning decisions on the strategies in the plan.

Key Actions:	Project Initiator(s):
Review of local government comprehensive and land-use plans. Note needed changes. Review Changes with local government Staff. Present to local government board for adoption.	Local Governments LCAT WPCOG EEP

Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits
DENR/DWQ WPCOG LCAT City of Lenoir Town of Gamewell Caldwell County Burke County	Local government staff to review, update and present needed changes to comprehensive and land-use plans, and make corresponding recommendations to other ordinances.	<ul style="list-style-type: none"> • Water quality Improvements • Increased awareness of current and future conditions of drinking water supply • Encouragement and justification for policy changes. • Increase Community Awareness of Actions that impact drinking water

Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation through Public meetings	Varies depending upon aggressiveness of integration into existing plans and level of implementation desired.	Local Governments Grants	Year 1 for consideration and adoption Ongoing for implementation

Measureable Performance Indicators:	<p>Various levels of plan integration into local policies:</p> <ul style="list-style-type: none"> • Acknowledgment of plans existence • Consideration of plan elements • Utilization of selective plans recommendations • Adoption of some of recommendations • Adoption of all recommendations • Action Plan for implementation of recommendations
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Status: Long Range and Comprehensive plans are developed and updated periodically by local governments, either internally by existing staff under or contract with the WPCOG or a private consulting firm. As plans get updated there may be more integration of these strategies.

*Recommendation based on from Lower Creek Watershed Management Plan, 2006 minor modifications may have been incorporated for purpose of clarifying and updating information.

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 2*

Practice Title:		Develop comprehensive stormwater management ordinances	
Practice Narrative:		Fully implement stormwater permits and management plans throughout the region in conjunction with current Phase II Programs.	
Key Actions:		Project Initiator(s):	
Identify stormwater administrator. Review current stormwater activities along with the responsibilities outlined in the permit. Permit holders in DWSP area.		Local Governments Stormwater Administrators	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG	Stormwater Working Group (SWWG) Ongoing training for Stormwater Staff and Public Service personnel Adequate funding and staffing	Consistent application across jurisdiction.	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Stormwater Advisory Boards formed	\$2 million annually to operate programs in the Burks Caldwell Counties (estimated by SWWG 7/9/09)	General fund local governments, grants Stormwater Utility Fees	Compliant with current new permits issued in 2011
Measureable Performance Indicators:		Ordinances in place in Municipalities with DWSPP area. Annual Reports will include relevant program implementation information.	
Status:	Municipalities in Burke and Caldwell have adopted the ordinances based on North Carolina's Model Ordinance. The Water Resource Committee has appointed a Stormwater Working Group (SWWG), which has been voluntarily assisting Phase II Stormwater communities in the region for nearly a decade. The City of Lenoir has staff for stormwater who fulfills the stormwater requirements for the towns of Gamewell and Lenoir. In order to better fully implement stormwater permits and management plans throughout the region in conjunction with current Phase II Programs it is recommended that there be better coordination between ongoing projects and resources in the Rhodhiss watershed. In order to do this, it is important to develop an organizational structure that works best to achieve collaboration and allows coalition members to remain independent organizations. No Stormwater utility is currently found in the region. Caldwell County has rescinded their permit in 2009 and is not currently implementing a stormwater program.		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 3***

Strategy:	Amend subdivision ordinances to promote Low Impact Development and other measures that limit development impacts		
Strategy Narrative:	Review Ordinances for possible amendments that can be made that would promote the use of Low Impact Development and other measures that limit the impact of development. Garner local support for such initiatives and encourage their implementation.		
Key Actions:		Project Initiator(s):	
Develop a comprehensive list of green policies. Review local government land-use ordinances and town policies. Review Ordinances with local government Staff to determine need and possibilities. Present to local government board and recommend for adoption.		Local Governments WPCOG Planning Staff	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG Cooperative Extension	Staff to review, update and present recommended changes to land-use ordinances.	Local Government Awareness Potential for cost savings in new development	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation	\$5,000-\$15,000		By 2015
Measureable Performance Indicators:		Number of new policies adopted by local governments	
Status:	<p>Caldwell County has had minimal Planning staff since 2009, so working on amendments may have to take place down the road. Staff at the Western Piedmont Council of Governments has staff trained in LID, and have had LID training sessions at the WPCOG.</p> <p>Both Caldwell and Burke Counties have promoted the protection of environmentally sensitive areas in certain instances, such as in the Lake James small planning area in Burke County and any area proposed as a “planned unit development” in Caldwell County. Both counties should amend their subdivision ordinances to specify LID and to require open space, setting aside sensitive areas, including floodplains and steep slopes, from development.</p>		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 4*

Strategy:		Adopt and enforce more comprehensive riparian buffer ordinances	
Strategy Narrative:		Each of the local governments having jurisdiction over the Lower Creek local watershed adopt and enforce ordinances that extend the protection of 50-foot vegetative buffers to the perennial and intermittent streams that comprise the watershed.	
Key Actions:		Project Initiator(s):	
Map intermittent and perennial streams in the local governments jurisdiction Adopt and enforce an ordinance that protects 50 feet of vegetative buffer on the streams.		Local Governments WPCOG	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG WRCS/ Cooperative Extension Foothills Land Conservancy WRC Duke Energy	State and Federal Regulations Examples of Exemplary Programs	Habitat protection	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation in advisory role	Staff time	Local governments	2 – 4 Years
Measureable Performance Indicators:		Number of local governments to adopt riparian buffer ordinances.	
Status:	Burke and Caldwell County, as well as the Town Governments within their boundaries, have adopted land use ordinances that affect water quality. Both Counties taken over monitoring and permitting for Sedimentation and Erosion from the State, as well as adopting a Buffer Requirement Ordinance that requires a minimum 60 foot buffer along riparian waterways. Other ordinances adopted by the local governments include Water Supply Watershed Ordinances (WS-I, WS-II, WS-III, and WS-IV), a Stormwater Phase II Ordinance, and the Flood Damage Prevention Ordinance (FDPO).		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 5***

Strategy:		Monitor compliance with and enforcement of erosion and sedimentation control ordinances	
Strategy Narrative:		Review current policies related to sedimentation and erosion control regulatory and oversight processes and implement corrective action for deficiencies.	
Key Actions:		Project Initiator(s):	
Gather current policies, interview appropriate personnel Identify deficiencies and recommend corrective actions Educate Grading Contractors and Heavy Equipment Operators on regulations		Local Governments WPCOG	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG EXT	State and Federal Regulations Examples of Exemplary Programs	Decrease in construction runoff	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation in advisory role	Staff time	Local governments	2 – 4 Years
Measureable Performance Indicators:		Number of inspections of land disturbing activity. NOV issues, corrective actions taken.	
Status:	<p>Caldwell County developed a local sediment and erosion control ordinance in compliance with the State’s Sedimentation Pollution Control Act of 1973 (SPCA) and assumed responsibility for implementation of the requirements of the SPCA within all of Caldwell County in October 2007. In early 2009, in an effort to reduce costs by eliminating staff necessary to operate the program, Caldwell County returned administration of the Sediment and Erosion Control Program to the state.</p> <p>Currently, Burke County does not intend to assume a local sediment and erosion control program and depends on the State’s Division of Land Resources program to enforce state regulations.</p>		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 6*

Strategy:		Develop steep slope ordinances	
Strategy Narrative:		Counties should consider a steep slope ordinance, which would establish policies and control practices for development on steep slopes.	
Key Actions:		Project Initiator(s):	
Gather current policies, interview appropriate personnel Study land use effects GIS evaluation of Steep Slopes Adopt and enforce steep slope ordinance		Local Governments WPCOG Planning and GIS	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG EXT	State and Federal Regulations Examples of Exemplary Programs	Decrease in construction stormwater runoff. Decrease in sedimentation	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation in advisory role	Staff time	Local governments Grants	Ongoing
Measureable Performance Indicators:		Number of local governments to adopt steep slope ordinances.	
Status:	<p>Development on steep slopes is of particular concern in Caldwell and Burke Counties. Counties should consider a steep slope ordinance, which would prohibit or limit development on steep slopes. Boone adopted a Steep Slope Ordinance on October 2, 2006.</p> <p>A brochure describing their program can be found at this link: http://www.townofboone.net/departments/development/pdfs/TOB_Steep_Slope_Brochure.pdf</p> <p>The Land of Sky Regional Planning Agency has prepared a document called “Mountain Ridge and Steep Slope Protection Strategies” at the following link: http://www.climatechange.nc.gov/PDFs/LandofSky-MRSSPS-report%205-28-08.pdf</p>		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 7*

Strategy:	Amend ordinances to prohibit development in the 100 year floodplain		
Strategy Narrative:	County and municipal jurisdictions should reevaluate floodplain areas based on these new maps and allow no development or filling in the 100 year floodplain.		
Key Actions:		Project Initiator(s):	
Inventory current structures in floodplain Amend Model Floodplain Ordinance		Local Governments	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG Cooperative Extension FEMA	Local Model Ordinances Examples of Exemplary Programs	May encourage adequate staffing and funding levels	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation in advisory role	Staff time	Local governments	2 – 4 years
Measureable Performance Indicators:		Number of local governments to adopt ordinances.	
Status:	<p>Within the Lower Creek watershed, the floodplain has been utilized for commercial or industrial development. The Cities of Lenoir and Gamewell, and Burke and Caldwell Counties have adopted floodplain management ordinances, but restrictions of the floodplain are permitted as long as structures are constructed at a specified level above the flood elevation.</p> <p>Revised floodplain maps from the Federal Emergency Management Agency have been developed and adopted with new remote sensing imagery. County and municipal jurisdictions should reevaluate floodplain areas based on these new maps and allow no development or filling in the 100 year floodplain.</p>		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 8***

Strategy Title:		Develop a robust public education program	
Strategy Narrative:		Increase awareness and concern for water resource issues in the region through comprehensive education and outreach efforts. Encourage adoption of BMP's. Utilize Environmental Education practices and principles	
Key Actions:		Project Initiator(s):	
Collect and develop resource materials Work with and in schools Collaborate with existing programs Present at community events		LCAT/Phase II permittees	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ LCAT WPCOG Cooperative Extension Schools NC Science House	Lead implementer team to help develop Education/Outreach Plan	Citizen involvement. Multi-Jurisdictional cooperation School educational value Serves multiple purposes	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Volunteers	Varies based on extent of program	Foundations, 205j, local government contribution	Ongoing
Measureable Performance Indicators:		Local Watershed Website, Number and type of written resources available; # of students/school reached	
Status:	<p>The Lower Creek Advisory Team and Caldwell County Soil and Water have taken the lead in promoting educational activities with the Lower Creek Watershed. The Lower Creek Coordinator was a funded position for the first three years after the plan. Further outreach and education will require more funding for a coordinator.</p> <p>Activities accomplished with respect to outreach and education can be found in the Lower Creek Watershed Management Plan final report found in Appendix B. This includes presentations to various groups as well as printed materials.</p>		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 9***

Strategy Title:	Adopt a comprehensive watershed-based land use plan for the Lower Creek watershed to protect Lake Rhodhiss		
Strategy Narrative:	Regular update of existing comprehensive land-use plans should include and integrate steps that include watershed based concepts and strategies.		
Key Actions:		Project Initiator(s):	
Review of local government comprehensive and land-use plans. Note needed changes. Review changes with local government staff. Present additional recommendations to local government board for adoption.		Local Governments WPCOG	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefits	
DENR/DWQ WPCOG LCAT	Staff to review, update and present needed changes to comprehensive and land-use plans.	Local Government Awareness. Improve DWQ Improve Water Quality Removal from impairment list	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation in Advisory Capacity and Public meetings	\$5,000-\$15,000/plan singular update	CWMTF, 205j, 319h, local government contribution	Every 2 years
Measureable Performance Indicators:		Number of changes adopted by local governments.	
Status:	Some local governments in Burke, Caldwell and McDowell Counties have recently or are developing or revising their comprehensive land use plans. In addition, Caldwell County is developing its stormwater program in response to EPA’s Phase II Stormwater Management Permit requirements. It is therefore an opportune time to reexamine the institutional measures regulating land development aspects that have an impact on stream health.		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 10*

Strategy Title:	Continue to support and seek funding for preservation, restoration and BMP projects outlined in the Lower Creek Watershed Management Plan.		
Strategy Narrative:	Educate property owners on tax incentives and their rights as landowners for establishing conservation easements on their property. Develop and promote incentives for property owners who establish and maintain buffers along streams with intensive agriculture activity. Purchase conservation easement or fee-simple acquisition along waterways within the watershed focusing on priority subwatersheds. Encourage the use of appropriate Non-Point Source BMPs within the watershed that are the most beneficial in removing nutrients.		
Key Actions:			Project Initiator(s):
Identify funding sources most appropriate for each recommendation in the plan Identify project partners Apply for funding sources			Local Partners
Potential Partners:	Resources/Technical Assistance Needed:		Additional Benefits
DENR/DWQ WPCOG NRCS Burke/Caldwell SWCD Cooperative Extension Landtrust/Conservancy EEP Municipalities	Technical Advisory Committee (LCAT) Citizens Advisory Committee Funding for Lower Creek Coordinator		Greenways Blueways Water Quality impacts Habitat improvement Decreases sedimentation
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Participation	Varies depending on size of easement	CWMTF, 319h, local government contribution	Ongoing
Measureable Performance Indicators:		Landowners identified; easements/riparian buffer obtained. Types and #'s of BMPs installed and/or implemented	
Status:	See Lower Creek Watershed Management Plan final report in Appendix B.		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 11**

Strategy:	Continue and increase support for projects to identify and correct onsite residential sewage treatment systems		
Strategy Narrative:	Work with local and state environmental health professionals to identify and correct failing systems.		
Key Actions:		Project Initiator(s):	
Restructure existing Unifour Septic System Repair Program to more efficiently distribute funding and administer program. Coordinate with Environmental Health Specialists in County and State		County Environmental Health Onsite wastewater WPCOG	
Potential Partners:	Resources/Technical Assistance Needed:		Additional Benefits
DENR/DWQ EXT Lenoir Rhyne University Caldwell County GIS Environmental Health	Assistance from County Environmental Health Specialists DENR assistance from Onsite Wastewater		Remove health hazards
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Reporting failing systems. Participating with WaDE neighborhood surveys	\$500,000 to \$750,000 Average residential septic system repair \$5,000	Can sometimes incorporated into some grants as part of project management. Time to develop grant is not recoverable	Ongoing
Measureable Performance Indicators:		Annually, number of residential loan applied for and received; amount of grant funding applied for and received	
Status:	<p>The WPCOG will continue to operate and try to acquire adequate funding for the Unifour Septic Tank Repair Program, and will plan to restructure the existing program to more efficiently distribute funding and administer the program. The program will be more highly concentrated in the priority areas listed in Section 6.2.</p> <p>There have been no new loans or grants since November 2007. WPCOG Staff is currently managing outstanding loans for the project.</p>		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 12**

Strategy:	Continue water quality monitoring to identify problem areas and document improvements. Incorporate a volunteer monitoring component and alternative monitoring methods.		
Strategy Narrative:	Continue water quality monitoring to identify problem areas and document improvements. Incorporate a volunteer monitoring component.		
Key Actions:		Project Initiator(s):	
Utilize previous monitoring locations Add new monitoring sites as needs occur Periodic collection of water quality data Pre and Post monitoring at restoration and BMP sites		DENR	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ Land and Lakes RC&D WPCOG Cooperative Extension Lenoir Rhyne University Reese Institute River Keeper	Varies based on extent of study. Field Monitoring equipment, lab analysis Training, Coordination and Quality Control of volunteers needed	Citizen and student involvement possible. Early detection of problem	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Voluntary Citizen/Student Monitoring (MacroInvertbrates)	Varies based on extent of study	CWMTF, 205j, 319h, local government contribution	Ongoing
Measureable Performance Indicators:		Current Loading information from tributaries of most concern. Number of sites sampled on yearly basis	
Status:	Collection of water quality data should occur periodically within priority areas listed in Section 6.2. A cost effective way to accomplish the monitoring would be to incorporate a volunteer monitoring component, though training, coordination and quality control of volunteers would be needed. Lenoir Rhyne University's Reese Institute for the Conservation of Natural Resources has some student macro invertebrate sites that can be utilized for monitoring water quality as well.		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 13

Strategy:		Create education and outreach program in the agricultural industry to promote use of BMP's	
Strategy Narrative:		Establish a partnership to promote green industry practices in the watershed.. and market products as green. Continue to work with ornamental nursery industry to promote use of BMP's (drip irrigation, cover crops, soil testing, no till techniques	
Key Actions:		Project Initiator(s):	
Work with the ornamental nursery industry to promote use of BMP's Identify ornamental nursery owners interested in projects that involve installation of BMPs Educate property owners on tax incentives and their rights as landowners for establishing conservation easements on their property Develop and promote incentives for property owners who establish and maintain buffers along streams		Cooperative Extension	
Potential Partners:	Resources/Technical Assistance Needed:		Additional Benefits
DENR/DWQ NRCS WPCOG EXT SWCS	Oversight Cooperative Extension Service Identify property owners interested in projects that involve installation of BMP's		Better projects. Maintain continuity of projects.
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Private sector participation in projects and promotion	Varies depending on type and size of project		Ongoing
Measureable Performance Indicators:		Annually, number of projects	
Status:	Cooperative Extension Soil and Water Conservation Service and NRCS should continue to work with the ornamental nursery industry to promote use of BMP's (drip irrigation, cover crops, soil testing, No till techniques), identify ornamental nursery owners interested in projects that involve installation of BMP's for data and monitoring, educate property owners on tax incentives and their rights as landowners for establishing conservation easements on their property, develop and promote incentives for property owners who establish and maintain buffers along streams with intensive agriculture activity and purchase conservation easement or fee-simple acquisition along waterways within the watershed.		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 14**

Strategy Title:		Improve monitoring and detection of potential leaks in sewage distribution systems	
Strategy Narrative:		Improve monitoring and detection of potential leaks in sewage distribution systems.	
Key Actions:		Project Initiator(s):	
Appropriate map system Walk system lines GPS system Develop regular system check		WWTP operators Public Utility City of Lenoir, Gamewell	
Watershed Planning Tool Category:		Non Stormwater Discharges	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ NC Science House LCAT Phase II SW Permit Holders Reese Institute	Staff time GIS Assistance GPS equipment	Savings in potential clean-up cost. Permit compliance	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Reporting overflows through hotline	Varies based on extent of effort	local government contribution	Ongoing
Measureable Performance Indicators:		Inspection plan developed. Inspection reports	
Status:	Sewer lines that are in operation with the priority areas listed in Section 6.2. These areas should be monitored to determine if any sewer line leaks are responsible for fecal coliform hot spots. Sporadic inspection of system currently, complaint driven rather than prevention driven		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 15**

Strategy Title:	Work with local governments and other relevant organizations to begin county wide Hazardous Waste Drop-off program.		
Strategy Narrative:	A household hazardous waste drop-off program can be instrumental in reducing the amount of these hazardous materials that can end up in drinking water sources. This can include giving residents the ability to easily drop off these materials on just a few scheduled days a year or at convenience centers with appropriate collection systems.		
Key Actions:	Gather resources from existing programs Develop marketing plan		Project Initiator(s): WPCOG
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ CRC WPCOG EXT SH SWCS	Staff- Program Coordinator Advisory Team to help set program priorities	Citizen involvement. Multi-Jurisdictional cooperation	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Volunteers	Varies based on extent of program	CWMTF, 205j, 319h, local government contribution	2 years to start up, then ongoing
Measureable Performance Indicators:		Local Watershed Website, Number and type of written resources available; # of students/school reached	
Status:	NC DENR Division of Waste Management provides guidance and provides an application for municipalities to begin a county-wide Hazardous Waste Drop-off day. This information can be found at: http://portal.ncdenr.org/web/wm/sw/hhw . Catawba County has had a successful program, allowing drop-offs twice a year at different locations in the county.		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 16**

Strategy Title:	Work with local health department and other relevant organizations to begin a prescription drug drop-off program.		
Strategy Narrative:	Prescription medications have been showing up in drinking water sources in trace amounts. In order to prevent this, it is recommended that counties and local government help advertise programs already in place, as well as expand the current program.		
Key Actions:	Gather resources from existing programs Develop marketing plan Collaborate with existing programs		Project Initiator(s): WPCOG
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ CRC WPCOG EXT SH SWCS	Staff- Program Coordinator Advisory Team to help set program priorities	Citizen involvement. Multi-Jurisdictional cooperation	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Volunteers	Varies based on extent of program	CWMTF, 205j, 319h, local government contribution	2 years to start up, then ongoing
Measureable Performance Indicators:		Local Watershed Website, Number and type of written resources available;	
Status:	Prescription drug drop off can also be done in conjunction with a hazardous water drop-off day. Catawba County currently does this. The Lenoir Police Department currently has a Drop Box for medications that can be used year round.		

**Lower Creek
Drinking Water Source Protection Plan
RECOMMENDATION 17**

Strategy Title:	Increase awareness and encourage participation in local stream clean-up programs.		
Strategy Narrative:	This voluntary program involves members of the community in a hands on activity to clean up surface waters. Local citizen groups adopt a waterway, or a portion of one, and become informed stewards, learning how to react to the changing stream conditions.		
Key Actions:		Project Initiator(s):	
Collect and develop resource materials Collaborate with existing programs		Local Governments WPCOG	
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ WPCOG Cooperative Extension LCAT Municipalities	Contact with Program Coordinator	Citizen involvement. Water Quality	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
Volunteers	Varies based on extent of program	local government contribution	Ongoing
Measureable Performance Indicators:		Number of volunteers, number of times program coordinates clean-up	
Status:	<p>There are more than 200 existing Stream Watch groups in North Carolina, however, non are active in our region. They are composed of elementary school students, scout troops, businesses, and retirement groups.</p> <p>The WPCOG and Cooperative Extension 4-H have sponsored groups in the past. NC Big Sweep takes place annually on the Catawba River and NC DOT Litter Sweep Week takes place bi-annually along roadways.</p> <p>Stream clean-ups should also be focused on Lower Creek and its feeder streams located in the Lower Creek watershed. There aren't currently any programs or activities that take place in these areas.</p>		

Lower Creek Drinking Water Source Protection Plan RECOMMENDATION 18

Strategy Title:	Abandonment requirements/Brownfield programs for Potential Contaminant Sources.		
Strategy Narrative:	Local governments in the Lower Creek watershed should explore programs that set requirements for closing facilities and clean up, especially for sites housing potential pollutants. Attention should also be paid to proper sealing of abandoned wells.		
Key Actions:	Gather resources from existing programs Develop marketing plan		Project Initiator(s): WPCOG
Potential Partners:	Resources/Technical Assistance Needed:	Additional Benefit	
DENR/DWQ CRC WPCOG EXT SH SWCS	Staff- Program Coordinator Advisory Team to help set program priorities	Citizen involvement. Multi-Jurisdictional cooperation	
Public Involvement:	Cost Estimate:	Potential Funding:	Timeframe:
	Varies based on extent of program	EPA Brownfield Program	Ongoing
Measureable Performance Indicators:		Funding obtained, abandoned USTs removed, properties with USTs mitigated	
Status:	<p>The State of North Carolina does not require that non-regulated USTs be removed from the ground once they are no longer in operation. Additionally, soil samples are not required unless it is obvious that a release has occurred. However, a tank owner is advised to empty a nonregulated tank once it is no longer being used to limit the chances of a release.</p> <p>Funding for petroleum brownfields can also be obtained for clean up and reuse of old gas stations. More information can be found at: http://www.epa.gov/oust/petroleumbrownfields/index.htm.</p>		

9 – Long Term Planning Strategy

One of the goals of the Lower Creek Source Water Protection Plan was to prepare a comprehensive protection plan, using what has already been prepared, that can be used by local governments and agencies as roadmap for improving source water quality conditions within the watershed.

As noted within the Plan, the Source water area is much larger than just the Lower Creek Watershed, and a true Source Water Protection Plan would take into account the entire area that drains into the intake. However, due to the time and financial constraints under which this plan needed to be completed, the project was to update an existing plan.

Staff and the WRC chose the Lower Creek Watershed Plan as a basis from which to begin the plan for a few reasons:

- 1) A stakeholder group (LCAT) already existed
- 2) Existing strategies were already in place that also has an effect on Source Water Protection
- 3) There were resources and political will already in place.
- 4) The Lower Creek does drain directly into Lake Rhodhiss, which houses the water intake for Granite Falls, Lenoir and Valdese.

Future efforts should and will concentrate on the entire source water area for multiple intakes in our region. WPCOG staff has been involved with the National Drinking Water Source Protection Consortium stakeholder process and most recently have been participants and signatories to the NC Drinking Water Consortium which was an outgrowth of those efforts. Developing Drinking Water Source Protection Plans that blanket our region has been recognized by the Western Piedmont Water Resources Committee in their priority project list for the past 3 years.

The 205j grant funded this effort also included building our agencies GIS capacity to support further planning efforts of this nature. The WPCOG plans to submit a proposal to the NC Clean Water Management Trust Fund first round of funding Source Water Protection Plan development. The potential geographic scope may cover the Source Watershed that supplies the City of Hickory intake on the Catawba River and therefore all municipal water intakes in our region, (if we include City of Newton's intake in the Upper South Fork Catawba watershed near the confluence of Henry River and Jacob's Fork).

The major drinking water supply reservoir in the region is classified as impaired for nutrients, and concerns about over-allocation of available surface water are on the minds of many our agency will continue to encourage local action to protect our region's water resources.

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Appendix A

Lower Creek Watershed Management Plan

Appendix B

Lower Creek Watershed Management Plan Final Report

Appendix C

Sample Local Government Regulations

Local Government	Phone	Website and Ordinance	Notes
Asheville	828-259-5830	www.ashevillenc.gov Unified Development Ordinance (Sec.7-12-4 Steep Slope and Ridgetop Development)	Applies to areas above 2220' in elevation and existing grade >= 15% and designated ridges. Regulates amount of disturbance, road design, building height, density and vegetation removal. Incentives for building on less steep/sensitive areas.
Black Mountain	828-669-9784	www.townofblackmountain.org Subdivision Regulations Land Disturbance and Slope Protection Ordinance	Subdivision and Land Disturbance and Slope Protection ordinances regulate disturbance, road design, vegetation, public safety and require low-impact design (LID) and conservation subdivision design in some cases.
Boone	828-268-6200	www.townofboone.net Steep Slope Protection Ordinance; Viewshed Protection Ordinance	Regulations focus on public safety and viewshed protection. Land disturbance is limited in viewshed areas. Developers are encouraged to minimize visual impact on ridges and steep slopes.
Brevard	828-883-8580	www.cityofbrevard.com Unified Development Ordinance (Chapter 6. Environmental Protection)	Regulations focus on minimizing land disturbance and ensuring safe construction. Creative designs are encouraged and development potential may be transferred from steep areas to less-steep areas of parcel.
Buncombe County	828-250-4830	www.buncombecounty.org Subdivision Regulations and Zoning Ordinance	Regulates amount of land disturbance, impervious surfaces, density, road design and building height for subdivisions and multi-family dwellings. Emphasis is on limiting disturbance and impervious surfaces on steep slopes; encourages clustering development in less-steep areas of parcel in return for a density bonus.
Haywood County	828-452-6632	www.haywoodnc.net Slope Ordinance	Regulates slope height, cut and fill slopes, compaction and placement of utilities with a focus on safe construction. Established an Engineering Review Board for policy recommendations and enforcement.
Henderson County	828-697-4819	www.hcplanning.org Land Development Code	County follows state ridge law, but allows for conservation subdivisions which encourage conserving steep slopes as open space through a density bonus.
Jackson County	828-631-2281	http://planning.jacksonnc.org Mountain and Hillside Development Ordinance	Regulates all types of development and land disturbing activity in the Mountain and Hillside Development District. Limits grading, height, density, and vegetation removal. Requires compliance with BMPs in ordinance.
Waynesville	828-456-2004	www.townofwaynesville.org Hillside Protection Ordinance	Regulates amount of grading and density based on slope. Construction on mountain ridges governed by Haywood County and State regulations.
Transylvania County	828-884-3205	www.transylvaniacounty.org Mountain Ridge Protection Ordinance, Subdivision Ordinance	Ridges covered include all ridges that are at least 500 feet above the elevation of an adjacent valley floor, regardless of elevation. Project approval dependent upon adequate water supply, safe waste water disposal, adequate fire protection and preservation of natural beauty.

(Land of Sky Regional Council, 2008)

Appendix D
Funding Sources

Financial Assistance Resources

Grant, Loans and Cost Share

Agriculture Cost Share Program - Division of Soil and Water Conservation

Financial incentives are provided through North Carolina's Agriculture Cost Share Program. This program is administered by the Division of Soil and Water Conservation (Division) in the Department of Environment and Natural Resources. Due to the program's success, it has been extended to all 96 Soil and Water Conservation Districts (Districts) that includes all 100 counties. 10-25%. Farmers

<http://www.enr.state.nc.us/DSWC/pages/agcostshareprogram.html>

Aquatic Weed Problems – Division of Water Resources

Staff assists local governments by providing free evaluation of aquatic weed problems affecting public waters and **cost sharing** when control efforts are needed.

<http://www.dwr.ehnr.state.nc.us/wrps/weeds.htm>

Aquatic Restoration Grants

Army Corps of Engineers - Section 206. Aquatic ecosystem restoration and protection projects. 35%. Non-federal public agencies

<http://www.saw.usace.army.mil/Floodplain/Section%20206.htm>

Clean Water Management Trust Fund

CWMTF will fund projects that (1) enhance or restore degraded waters, (2) protect unpolluted waters, and/or (3) contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits.

<http://www.cwmtf.net/>

Clean Water Partners Infrastructure Program

Rural Center - Congress provides states with grant funds to establish revolving loan programs to assist funding of wastewater treatment facilities and estuary and nonpoint programs. Local Government

<http://www.ncruralcenter.org/grants/water.htm>

Clean Water State Revolving Fund and the NC Clean Water Revolving Loan and Grant Program

Wastewater System Expansion and Improvements - Division of Water Quality – Construction Grants and Loans Section. The section administers two major programs that assist local governments, the federally funded These programs can provide both low interest loan and grant funds for wastewater treatment projects.

<http://www.nccgl.net/fap/cwsrf/index.html>

Community Development Block Grant Program

All North Carolina small cities in Lake Rhodhiss Watershed are eligible to apply for funds from the [U.S. Department of Housing and Urban Development \(HUD\)](#).

<http://www.ncdca.org/cdbg/>

Conservation Community Cost Share Program

NC DENR - Soil and Water Conservation Districts. Jointly funds water resources projects Local Governments

http://www.enr.state.nc.us/DSWC/pages/ccap_program.html

Conservation Reserve Program

USDA – NRCS, Convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover. Cost Sharing. Farmers, Ranchers

<http://www.nrcs.usda.gov/programs/crp>

Conservation Reserve Enhancement

NC DENR – DSWC. Seeks to protect land along water sources that is in agricultural production. Up to 75% Cost Share. Farmers, Ranchers

<http://www.enr.state.nc.us/DSWC/pages/crep.html>

Cooperative Water Program

USGS – Projects associated with estuary and NonPoint Source Programs. Local Governments

<http://water.usgs.gov/coop/>

Ecosystem Enhancement Program (EEP)

NC DENR- Conduct watershed assessment, planning, and restoration implementation. EEP offers. Public and Private Entities

<http://www.nceep.net/business/landowner/landowner.htm>

Environmental Education Model Library Grants

The Project Tomorrow program provides financial and other support to develop and enhance model environmental education library collections and promote the integration of environmental education in the teaching of North Carolina's competency-based curriculum.

<http://www.ee.enr.state.nc.us/pt/pttoc.htm>

Erosion and Sediment Control Awards, Division of Land Resources, Land Quality Section

The North Carolina Sedimentation Control Commission (SCC) accepts and encourages proposals for research and/or educational projects related to erosion and sedimentation control. For more information, you may contact Caroline Medlin at (919) 733-4574 or at caroline.medlin@ncmail.net

<http://www.dlr.enr.state.nc.us/eroprop.html>

Environmental Quality Incentives Program (EQIP)

Farmers, Ranchers, and Eligible Civic Groups involved in Resource Planning

A voluntary program whereby eligible candidates who own or control land on which crops or livestock are produced in an identified priority area or have a State identified priority natural resource concern develop a conservation plan to manage one's valuable natural resources.

<http://www.nc.nrcs.usda.gov/Programs/eqip.htm>

Farmland Preservation Trust Fund -Dept of Agriculture and Consumer Services (NCDA) –

NCDA contracted with The Conservation Trust for North Carolina (CTNC) to accept farmland easement applications, and to administer state-appropriated funds.

<http://www.enr.state.nc.us/DSWC/files/ncfpp.htm>

Farm Bill Programs

Funds agricultural management and grassland, wetlands and wildlife preserve programs. Varies. Farmers, Ranchers

<http://offices.sc.egov.usda.gov/locator/app>

**Federal Program Multiple Assistance Types – Water, Wastewater
United States Dept. of Agriculture – Rural Business-Cooperative Service**

Programs provide loans and grants for rural community water, sewage disposal, solid waste disposal, storm drain systems, telecommunications, computer networks and related technology. Eligible applicants include municipal and county governments, public service authorities, Indian tribal organizations and broadly based community nonprofit corporations.

<http://www.rurdev.usda.gov/nc/rus.htm>

Habitat Enhancement Program (HEP)

Duke Energy

Nonpoint Source Management Program Funding - 319 Grant Program

Division of Water Quality – Water Quality Section. The Clean Water Act - Section 319(h) allows EPA to provide funds to states (such as NC) who distribute the money to eligible candidates in a competitive process for innovative nonpoint source management strategies meant to be a demonstration for others.

<http://h2o.enr.state.nc.us/nps/319.htm>

Parks and Recreation Grant Programs-Division of Parks and Recreation

Grants to provided money to environmental organizations, and groups and state and local governments for park and recreation purposes, trail related needs and to acquire and protect important natural areas, preserve the state's ecological diversity and cultural heritage, and to inventory natural heritage resources of the state.

<http://ils.unc.edu/parkproject/prkgrants.html>

Parks and Recreation Trust Fund (PARTF)

PARTF is the primary source of funding to build and renovate facilities in the state parks as well as to buy land for new and existing parks. A local government can request a maximum of \$500,000 with each grant application.

<http://www.partf.net/apply.html>

NC Rural and Economic Development Center Water and Sewer Grant Program

The program is intended to help NC units of governments by funding up to \$10,000 per job created, for up to one half of water and sewer infrastructure costs, or a maximum of \$500,000, in projects that result in the creation of private sector jobs. Jobs must be full time, and must pay at least minimum wage. A local match of 5% of the total cost of the infrastructure is required.

For grant requirements, deadlines, and further information on the program, visit

<http://www.ncruralcenter.org/grants/water.htm>

For information on other economic development grants, visit

<http://www.ncruralcenter.org/research/grants.htm>

NC Division of Pollution and Prevention

The Solid Waste Management Trust Fund is used to make grants in support of waste reduction efforts. Programs can fall into two areas if eligibility: recycling business or community waste reduction and recycling.

<http://www.p2pays.org/localgov/assistance/financial.asp>

North Carolina Trails Program

The NC Adopt-A-Trail Grant program awards funds totaling \$135,000 annually to government agencies, non-profit organizations, and private trail groups for such projects as trail building, trail signage and facilities, trail maintenance, and trail information brochures and maps.

<http://ils.unc.edu/parkproject/trails/grant.html>

Recreational Trails Program (RTP)

A \$1.1 million dollar grant program with the intent to meet the trail and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan (SCORP). The grant applicants must be able contribute 20% of the project cost with cash or in-kind contributions.

Septic Systems – Repairing or Replacing – Grants and/or Loans

Grants and/or loans may be available to individuals and agencies for assistance in repairing or replacing inadequate wastewater treatment systems (both septic and ‘straight-pipe systems). Funding Sources for individuals located in counties with an active WaDE program, the individual may apply to the county itself for financial assistance. Funding Sources for Individuals in counties without an active WaDE program:

<http://www.deh.enr.state.nc.us/oww/Wade/funds.PDF>

Funding Sources for Agencies:

http://www.deh.enr.state.nc.us/oww/Wade/USDA_offices.PDF

Urban and Community Forestry Grant Program

Division of Forest Resources. Grants are available to local or state government, educational institutions, non-profit 501(c)(3) organizations and other tax-exempt organizations. The program goal is to encourage citizen involvement in creating and supporting long-term and sustained urban and community forestry programs at the local level.

http://www.dfr.state.nc.us/managing/urban_grant.htm

Waste Reduction Grants

Division of Pollution Prevention - Grants are to reduce the flow of waste (i.e., organics, construction and demolition debris, electronics, paper, etc.) to North Carolina disposal facilities. Some grants are available only to government and nonprofit organizations, while others are available to the private sector as well.

<http://www.p2pays.org/financial/index.htm>

Water Quality Planning and Protection - Division of Water Quality – Water Quality Section – 205j Grant Program

The Clean Water Act - Section 205(j) allows EPA to provide funds to states (such as NC) that distribute the money to eligible candidates (regional planning organizations) in a competitive process for water quality management planning. The Division prefers potential projects that deal with long-term growth management, impaired waters restoration, and public education. For more information please contact Dianne Reid 919-807-6300, dianne.reid@ncdenr.gov

Water System Improvements – Division of Environmental Health – Public Water Supply Section

To provide guidance, technical and financial assistance to units of local government and certain non-profit water corporations, in order to provide safe drinking water in North Carolina.

http://www.deh.enr.state.nc.us/pws/srf/srf_branch.htm

Wetland Protection Development Grant

USEPA - Develop comprehensive monitoring and assessment programs; Improve compensatory mitigation effectiveness; Refurbish wetland, aquatic resources, protection. 25%. States, tribes, local gov'ts interstate association, non governmental organizations, (NGOs), intertribal consortia, nonprofit's
<http://www.epa.gov/owow/wetlands/grantguidelines/>

Water Resources Grants – Division of Water Resources

This program is designed to provide cost-share grants and technical assistance to local governments throughout the State. Applications for grants are accepted for seven purposes: General Navigation, Recreational Navigation, Water Management, Stream Restoration, Beach Protection, Land Acquisition and Facility Development for Water-Based Recreation, and Aquatic Weed Control.
<http://www.dwr.ehnr.state.nc.us/wrps/grant.htm>

Voluntary Environmental Improvement Bonds

The Environmental Finance Advisory Board recently released a report on summarizing an alternative funding strategy for local governments to promote household environmental projects. In a few other states where localities have been given (or already had) the authority to implement such a program, counties and municipalities have started to lend money to households that volunteer to install environmental improvements (i.e. photovoltaic panels, energy efficiency). The local government is then paid back through a special assessment on property through property taxes. These types of assessments could potentially be used for a number of environmental improvements to a property (i.e. green roofs, stream buffers, replacement of old wood stoves, etc.).
<http://www.epa.gov/efinpage/publications/VoluntaryEnviroImprovementBondsReports.pdf>

FOUNDATION FUNDING

The Foundation Center

This website provides information on individual grants as well as grants for non-profits.
<http://foundationcenter.org/>

Z. Smith Reynolds Foundation

This is a strong resource for county and town government striving to create “active” reform
ZSR Foundation Focus Areas: community and economic development; democracy and civic engagement; environment; pre-collegiate education; social justice and equity
<http://www.zsr.org/>

GRANT RESOURCE SITES

Environmental Finance Center at UNC Chapel Hill

In addition to its Environmental Funding Database for the Southeast, the EFC provides a compendium of NC water and sewer water funding resources. Federal funding sources for environmental protection, solid waste management, watershed protection, brownfields remediation, capacity building, and energy efficiency and conservation are also posted online at <http://www.efc.unc.edu/funding.html>

Grants.gov

Allows organizations to electronically find and apply for more than \$400 billion in Federal grants. Grants.gov is THE single access point for over 1,000 grant programs offered by all federal grant making agencies.

<http://www.grants.gov/>

EPA Grants

The EPA has created a guide to assist local governments in the federal grant process. A list of all EPA grants, including regional grants, can be found at <http://www.epa.gov/epahome/grants.htm>

ENVIRONMENTAL EDUCATION

[American Honda Foundation Grants](#)

The American Honda Foundation makes grants to K–12 schools, colleges, universities, trade schools, and others for programs that benefit youth and scientific education. The average grant range is \$40,000 to \$80,000. Grants are awarded on a quarterly schedule.

[Annenberg Foundation](#)

The Annenberg Foundation focuses its grantmaking on the following program areas: education and youth development; arts, culture, and humanities; civic and community; animal services and the environment; and health and human services. Letters of inquiry that address the Foundation's interests are accepted throughout the year. The Foundation only considers organizations that are tax exempt.

[Ben & Jerry's Foundation](#)

The Ben & Jerry's Foundation offers competitive grants to not-for-profit, grassroots organizations throughout the United States which facilitate progressive social change by addressing the underlying conditions of societal and environmental problems. The Foundation will only consider proposals from grassroots, constituent-led organizations. Full grants range from \$1,001 - \$15,000 and throughout the year, the Ben & Jerry's Foundation may fund a small number of material grants for \$1,000 or less. The application process to the Ben & Jerry's Foundation begins with an initial Letter of Interest, and if invited, is followed by a full proposal. Letters of Interest may be submitted at any time and are reviewed on an ongoing basis.

[Campus Ecology Fellowships](#)

For more than a decade, NWF's Campus Ecology program has been helping transform the nation's college campuses into living models of an ecologically sustainable society, and training a new generation of environmental leaders. Campus Ecology Fellowships are awarded to college undergraduate and graduate students who desire to help reverse global warming on campus and beyond. The maximum grant request is \$3,000

[Captain Planet Foundation \\$250 - \\$2,500 Grants](#)

The Captain Planet Foundation provides grants of up to \$2,500 to school and community groups to support hands-on environmental projects. You can submit a proposal at any time during the year. However, proposals will only be reviewed the last day of March, June, September, and December.

[DonorsChoose.org and Progress Energy Support Classroom Energy Projects](#)

Progress Energy will fund \$50,000 in creative energy education projects in the North Carolina communities it serves this school year.

[Garden Club of America Scholarships and Fellowships](#)

GCA offers several research fellowships and scholarships for undergrads, grads and people already in the field. Topics include: ecological restoration, urban forestry, environmental studies, wetland studies, botany, desert studies and more.

[Georgia Pacific Foundation](#)

The Georgia-Pacific Foundation supports a wide range of organizations that improve the quality of life in communities where Georgia-Pacific operates. The Foundation has identified the following key investment areas: educational efforts; community enrichment; environmental programs; and entrepreneurship initiatives. Applications may be submitted online from January 1 through October 31, annually.

[Jenny Jones Announces Continuation of Community Grant Program](#)

Jenny's Heroes community grant program will donate \$1 million during 2009. The program provides grants of up to \$25,000 each to fund projects that promise long-term community benefits. The program's focus is primarily on smaller communities where fundraising can be difficult.

[Keepers in the Classroom](#)

Programs for children offered at your location. These K-8 programs are designed to transport N.C. Zoo's education resources into the classroom. Educators will use hands-on learning techniques to unravel the mystery and marvel of the Earth's wildlife.

[Lowe's Charitable & Educational Foundation Grants](#)

Grants range from \$5,000 to \$50,000. Community improvement projects and K-12 Public School Initiatives are primary philanthropic focus areas.

[Plum \\$500 Youth Grants](#)

Plum TV and Do Something want to see you and your project reach the next level. Youth, age 25 or under (at time of application) are eligible to apply. \$500 Plum grants are awarded weekly.

[National Geographic Society Young Explorer Grants](#)

The National Geographic Society's Young Explorers Grants offer opportunities to individuals between the ages of 18 and 25 to pursue research, exploration, and conservation-related projects consistent with National Geographic's existing grant programs, including the Committee for Research and Exploration, the Expeditions Council, and the Conservation Trust. The grant program accepts applications throughout the year.

[Pay it Forward Foundation Minigrants](#)

Pay it Forward Foundation offers minigrants (from \$50 to \$500) to fund service-oriented projects designed by youth to support their school, neighborhood, or greater community. Application deadlines are January 15, April 15 and October 15 of each year.

[Toshiba America Grants for Enhancing Math and Science Ed.](#)

Toshiba America grants up to \$5,000 for 7th-12th grade teachers and up to \$1,000 for K-6th grade teachers for enhancement in science and math education. K-6th grade program grants are due October 1. 7th - 12th grade program grants are due February 1 and August 1.

[Urban and Community Forestry Challenge Cost-Share Grant Program](#)

The National Urban and Community Forestry Advisory Council's 2009 Challenge Cost-Share Grant Program seeks to establish sustainable urban and community forests by encouraging communities to manage and protect their natural resources. Innovation Grants and Best Practices Grants of up to \$50,000

support nonprofit organizations urban and community forestry efforts. All grants must be matched at least one-to-one with non-federal funds. Applications are due in February

Some local governments also subscribe to fee based grant information sites.

Information in this Appendices has been gleaned from multiple resources most notably:
Jessica Stevermer, Master of Public Affairs Student, Western Carolina University
North Carolina Office of Environmental Education
Paul Clark, NC DENR Division of Water Quality

Appendix E
Letters of Support