Section B: Chapter 15

Yadkin-Pee Dee River Subbasin 03-07-15

Little River Watershed including Densons Creek and Cheek Creek

15.1 Water Quality Overview

Subbasin 03-07-15 at a Glance

Land and Water

Total area:	351 mi^2
Stream miles:	388.1
Lake acres:	18.5

Population Statistics

1990 Est. Pop.:	20,432 people
Pop. Density:	58 persons / mi^2

Land Cover (%)

Forest / Wetland:	85.1
Surface Water:	0.4
Urban:	0.9
Cultivated Crop:	3.3
Pasture / Managed Herbaceous:	10.4

The Little River subbasin lies adjacent and parallel to that of the Uwharrie River (03-07-09), and the two rivers are somewhat similar in nature. The Little River's headwaters are in Randolph County, and it flows generally south through Montgomery County and into the Pee Dee River just above Blewett Falls Lake. Major tributaries include the West Fork Little River, Densons Creek, Rocky Creek, Cheek Creek and Hamer Creek. Municipalities include Troy and portions of Star, Bisoce and Mount Gilead.

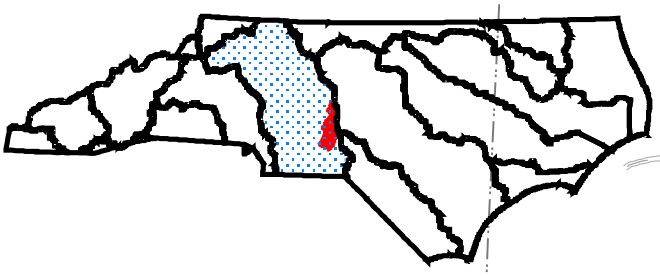
A map including the locations of NPDES discharges and water quality monitoring stations is presented in Figure B-16. Table B-30 contains a summary of monitoring data types, locations and results. Use support ratings for waters in this subbasin are summarized in Table B-31. Appendix I provides a key to discharge identification numbers. Refer to Appendix III for a complete listing of monitored waters and more information about use support ratings.

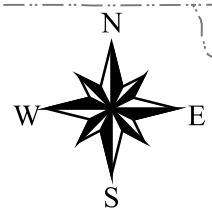
A large portion of the subbasin lies within the Uwharrie National Forest, and this public land is reflected in the large percentage of forested area (85 percent). Approximately 14 percent of the subbasin is characterized by agricultural land uses and a very small percentage is urban. The estimated population and density of this subbasin is currently low; however, projected population increases are 37 percent for Randolph County and 24 percent for Montgomery County between 2000 and 2020.

Currently, there are only two NPDES permitted discharges and three registered animal operations. Swine production from all farms (small and large) increased by 41 percent between 1994 and 1998. The capacity of this subbasin is a negligible percent of the state's total capacity for swine production, but these data indicate a shift in the agricultural community of this area. Poultry production capacity increased 10 percent over the same period. The Town of Biscoe WWTP is the only facility in significant noncompliance of the most recent review period; it is discussed in following sections.

Water quality is generally excellent. A portion of the Little River, along with the entire Densons Creek watershed, is classified High Quality Waters (HQW). Bridgers Creek and a portion of Rocky Creek are also HQW. Biological surveys indicate that the West Fork Little River might also be eligible for reclassification to HQW.

Figure B-16 Yadkin-Pee Dee River Subbasin 03-07-15





Asheboro
Seagrove
Star
Biscoe
Troy
Candor
Mount Gilead

RANDOLPH
MONTGOMERY
MOORE
STANLY
ANSON
RICHMOND

US-64
US-220
NC-49
NC-42
NC-705
NC-109
NC-134
NC-73
NC-731

Little West Fork
Little River
Dumas Creek
Pensons Creek
Rocky Creek
Cedar Creek
Little Creek
Disons Creek
Hamer Creek
Cheek Creek
Creek
Creek
Creek
Creek
Creek
River

F-1
B-2
F-2
Q9200000
B-1
67
64
F-3
SSB-1
SSB-2
B-3
B-4
F-4

Legend

- Subbasin Boundary
- Ambient Monitoring Station
- Benthic Station
- Fish Community Station
- Fish Tissue Station

NPDES Discharges

- Major
- Minor

Use Support Rating

- Supporting
- Impaired
- Not Rated
- No Data

- County Boundary
- Primary Roads
- Municipality

4 0 4 8 *Miles*

NCDENR

Planning Branch
Basinwide Planning Program Unit
March 21, 2003

Table B-30 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1997-2002) for Yadkin-Pee Dee River Subbasin 03-07-15

Site	Stream	County	Road	Bioclassification or Noted Parameter[2]
Benthic Macroinvertebrate Community Monitoring				
B-2	Little River[1]	Montgomery	SR 1340	Excellent
B-2	West Fork Little River[1]	Montgomery	SR 1311	Excellent
B-3	Little River[1]	Montgomery	NC 731	Good
SSB-1	Disons Creek	Montgomery	Above SR 1543	Good
SSB-2	Disons Creek	Montgomery	SR 1546	Good
B-4	Cheek Creek[1]	Montgomery	SR 1541	Not Rated
Fish Community Monitoring				
	Little River	Randolph	SR 1127	Good
	Little River	Randolph	NC 134	Good
	Little River	Randolph	SR 1135	Good
F-1	West Fork Little River[1]	Montgomery	SR 1311	Good
F-2	Dumas Creek	Montgomery	SR 1310	Excellent
F-3	Rocky Creek	Montgomery	SR 1549	Excellent
	Cheek Creek[1]	Montgomery	SR 1563	Excellent
F-4	Hamer Creek	Richmond	SR 1159	Not Rated
Ambient Monitoring				
Q9200000	Little River	Montgomery	SR 1340	None
Yadkin-Pee Dee River Basin Association Monitoring				
Q9320000	Little River	Richmond	SR 1148	Turbidity
Q9340000	Toms Branch	Richmond	SR 1310	None

[1] Historical data of this type are available for this waterbody; refer to Appendix II. Sites may vary.

[2] Parameters are noted if in excess of state standards in more than 10 percent of samples collected within the assessment period (9/1996-8/2001).

For more detailed information on sampling and assessment of streams in this subbasin, refer to the *Basinwide Assessment Report - Yadkin-Pee Dee River Basin* (NCDENR-DWQ, June 2002), available from DWQ Environmental Sciences Branch at http://www.esb.enr.state.nc.us/bar.html or by calling (919) 733-9960.

Table B-31 Use Support Ratings Summary (2002) for Monitored and Evaluated Freshwater Streams (miles) and Lakes (acres) in Yadkin-Pee Dee River Subbasin 03-07-15

Use Support Category	Units	Supporting	Impaired	Not Rated	No Data	Total[1]
Aquatic Life/Secondary Recreation	miles	237.1	0.0	19.8	131.2	388.1
	acres	18.5	0.0	0.0	0.0	18.5
Fish Consumption[2]	miles	0.0	**388.1**	0.0	0.0	0.0
	acres	0.0	**18.5**	0.0	0.0	0.0
Primary Recreation	miles	0.0	0.0	0.0	0.0	0.0
	acres	0.0	0.0	0.0	0.0	0.0
Water Supply	miles	7.5	0.0	0.0	0.0	7.5
	acres	0.0	0.0	0.0	0.0	0.0

[1] Total stream miles/acres assigned to each use support category in this subbasin. Column is not additive because some stream miles are assigned to more than one category.

[2] These waters are impaired based on fish consumption advice issued for three species of freshwater fish due to mercury contamination. Refer to page 104 of Section A for details.

15.2 Status and Recommendations for Previously Impaired Waters

This section reviews use support and recommendations detailed in the 1998 basinwide plan, reports status of progress, gives recommendations for the next five-year cycle, and outlines current projects aimed at improving water quality for each water. The 1998 Yadkin-Pee Dee River basin plan did not identify any Impaired waters in this subbasin.

15.3 Status and Recommendations for Newly Impaired Waters

No stream segments were rated as Impaired based on recent DWQ monitoring (1998-2001); however, as mentioned previously, some impacts to water quality were observed. Refer to Part 15.5 below, as well as Section A, Chapter 4 for further discussion of potential water quality problems in this portion of the basin.

15.4 Section 303(d) Listed Waters

No waters in this subbasin are listed on the state's draft 2002 303(d) list. Refer to Appendix IV for more information on the state's 303(d) list and listing requirements.

15.5 Other Issues and Recommendations

Based on DWQ's most recent use support assessment, the surface waters discussed below are not Impaired. However, notable water quality impacts were documented during the process. While these waters are not considered Impaired, attention and resources should be focused on them over the next basinwide planning cycle to prevent additional degradation or facilitate water quality improvement. A discussion of how impairment is determined can be found in Appendix III.

Although no action is required for these streams, voluntary implementation of BMPs is encouraged and continued monitoring is recommended. DWQ will notify local agencies and others of water quality concerns discussed below and work with them to conduct further monitoring and to locate sources of water quality protection funding. Additionally, education on local water quality issues is always a useful tool to prevent water quality problems and to promote restoration efforts. Nonpoint source agency contacts are listed in Appendix VI.

15.5.1 Densons Creek

The headwaters of Densons Creek are within the Uwharrie National Forest and overall the majority of the watershed is forested. However, there is increasing commercial and residential development along highway corridors in and out of Troy. DWQ has not monitored this stream since 1992 when the lower half of the watershed received a Good-Fair bioclassification.

Considering the increase in development, there is the potential for increasing impacts to this watershed from nonpoint source pollution. However, the Town of Troy has received multiple Clean Water Management Trust Fund grants (see page 275 for details) to acquire riparian buffers along Densons Creek, develop a greenway system, and improve WWTP facilities. Some of the potential impacts may be mitigated through these efforts. As resources allow, DWQ will sample Densons Creek over the next basinwide planning cycle.

15.5.2 Cedar Creek

Cedar Creek flows generally west from the Town of Biscoe into the Little River. The Biscoe WWTP discharges into the headwaters (Hickory Branch) of this stream. The WWTP was in significant noncompliance for BOD throughout 2000 and also experienced some problems meeting the dissolved oxygen permit limit in 2001. DWQ staff from the Fayetteville Regional Office worked with the treatment plant operator in 2001 to resolve problems associated with the discharge. As resources allow, DWQ will sample Cedar Creek over the next basinwide planning cycle. The Biscoe WWTP could receive permit limits consistent with DWQ's zero flow policy in the future. Refer to page 103 of Section A for details.

15.5.3 Cheek Creek

The headwaters of Cheek Creek are also within the Uwharrie National Forest, and fish community sampling revealed an Excellent community in the upper half of the watershed. However, habitat degradation was observed at a benthic macroinvertebrate sampling site in the lower part of the watershed in 2001, including bank erosion, sedimentation and a narrow, broken riparian zone. There has also been substantial channelization of the stream historically. No flow was present when DWQ attempted to resample the stream in 2002. Impacts indicating possible impairment are evident in the lower portion of the watershed; however, DWQ is unable to separate the effects of water quality problems from the effects of the extended drought, and the stream is currently not rated. Land use in the impacted area is primarily agricultural. There are no NPDES permitted discharges or developed areas.

Further investigation into the causes and sources of these water quality impacts is needed before recommendations to improve water quality can be made. However, local actions are needed now

to reduce sedimentation and bank erosion and to promote the production of instream habitat by restoring riparian vegetation throughout the watershed. DWQ will notify local agencies of water quality concerns regarding these waters and work with them to conduct further monitoring and to locate sources of water quality protection funding.

The Cheek Creek watershed (03040104 050010) is one of 55 watersheds in the Yadkin-Pee Dee River basin that has been identified by the Wetlands Restoration Program as an area with the greatest need and opportunity for stream and wetland restoration efforts. This watershed will be given higher priority than a nontargeted watershed for the implementation of NCWRP restoration projects. Refer to page 278 in Section C for details.

15.5.4 Hamer Creek

Hamer Creek was monitored for the first time by DWQ in 2001. In a situation similar to that of Cheek Creek, the initial fish community monitoring indicated impairment. When DWQ returned in 2002, there was no flow in the stream. The habitat of Hamer Creek did not appear very degraded and the stream is currently not rated. Pending higher flow conditions, DWQ will sample Hamer Creek again over the next basinwide planning cycle.

15.6 Additional Water Quality Issues within Subbasin 03-07-15

The previous parts discussed water quality concerns for specific stream segments. This section discusses water quality issues related to multiple watersheds within the subbasin. Information found in this section may be related to concerns about things that threaten water quality or about plans and actions to improve water quality.

15.6.1 Projected Population Growth

From 2000 to 2020, the estimated population increase for Randolph County is 37 percent and much of this growth is likely to occur in the headwaters of the Little River around Asheboro. Population is also expected to increase by 24 percent for Montgomery County over the same 20-year period. Growth management within the next five years will be imperative, especially in and around urbanizing areas and along highway corridors, in order to protect or improve water quality in this subbasin. Growth management can be defined as the application of strategies and practices that help achieve sustainable development in harmony with the conservation of environmental qualities and features of an area. On a local level, growth management often involves planning and development review requirements that are designed to maintain or improve water quality. Refer to Section A, Chapter 4 for more information about urbanization and development and recommendations to minimize impacts to water quality.