

# Chapter 13

## Cape Fear River Subbasin 03-06-13

Including: Upper Little River and Barbeque Creek

### 13.1 Subbasin Overview

#### *Subbasin 03-06-13 at a Glance*

##### **Land and Water Area**

Total area:	221 mi <sup>2</sup>
Land area:	219 mi <sup>2</sup>
Water area:	2 mi <sup>2</sup>

##### **Population Statistics**

2000 Est. Pop.:	35,654 people
Pop. Density:	162 persons/mi <sup>2</sup>

##### **Land Cover (percent)**

Forest/Wetland:	65.2%
Surface Water:	2.0%
Urban:	1.3%
Cultivated Crop:	23.4%
Pasture/ Managed Herbaceous:	8.1%

##### **Counties**

Harnett and Lee

##### **Municipalities**

Broadway and Sanford

Subbasin 03-06-13 includes the entire Upper Little River watershed draining Triassic basin, piedmont and the coastal plain. Most of the watershed is forested or with extensive agriculture. Development is occurring around Sanford in the western region of the subbasin. Population is expected to grow by 65,000 people in counties with portions or all of their areas in this subbasin by 2020.

There are six individual NPDES wastewater discharge permits in this subbasin with a permitted flow of 9 MGD (Figure 16). The largest are Erwin Mills (2.5 MGD), Dunn WWTP (3 MGD) and Erwin WWTP (1.2 MGD). Refer to Appendix VI and Chapter 30 for more information on NPDES permit holders.

There are eight registered swine operations in this subbasin.

There was one benthic community sample (Figure 16 and Table 16) collected during this assessment period. Data were also collected from one ambient monitoring station shared by UCFRBA (Appendix V) and DWQ. Refer to the *2003 Cape Fear River Basinwide Assessment Report* at <http://www.esb.enr.state.nc.us/bar.html> and Appendix IV for

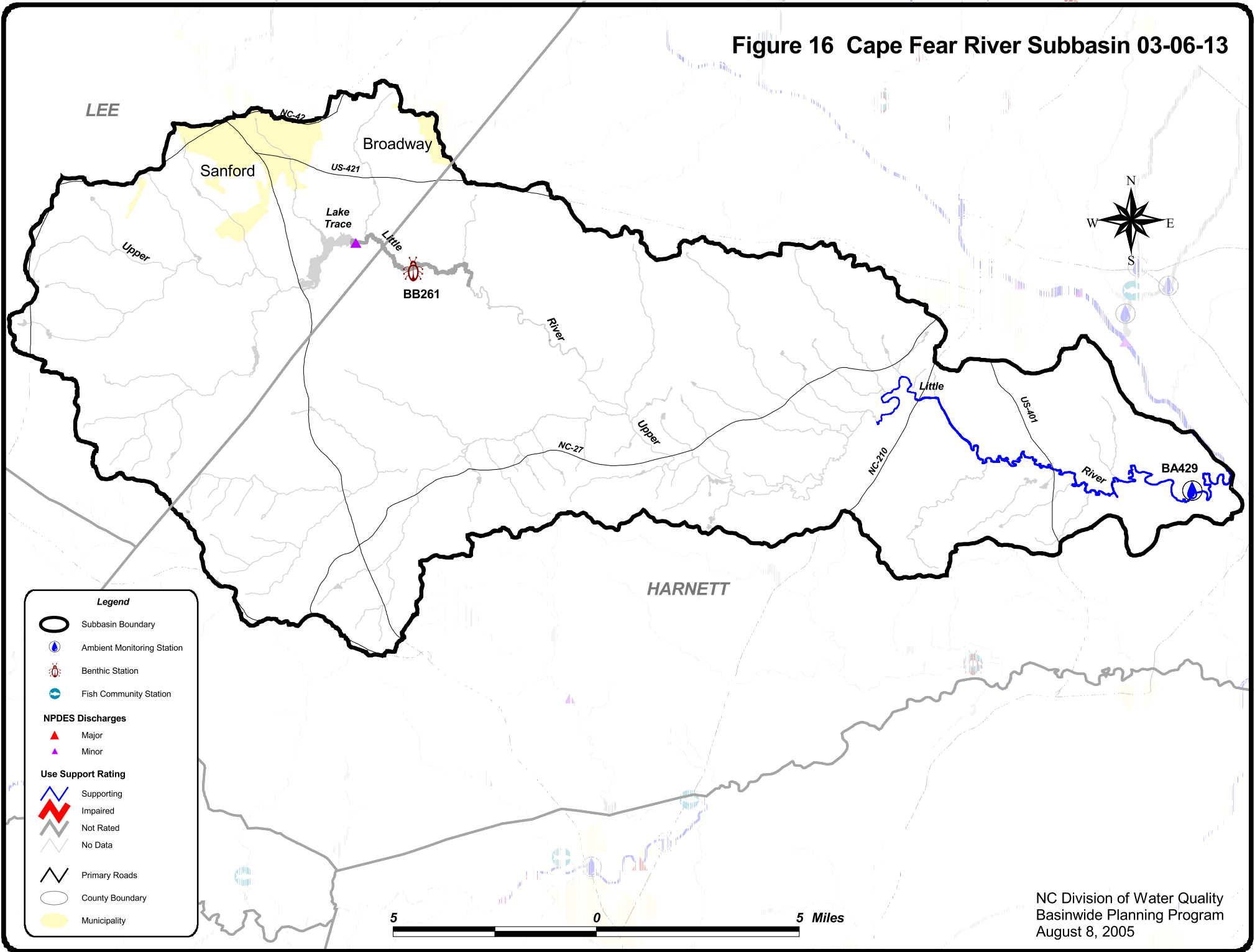
more information on monitoring.

Waters in the following sections are identified by assessment unit number (AU#). This number is used to track defined segments in the water quality assessment database, 303(d) Impaired waters list and the various tables in this basin plan. The assessment unit number is a subset of the DWQ index number (classification identification number). A letter attached to the end of the AU# indicates that the assessment is smaller than the DWQ index segment. No letter indicates that the assessment unit and the DWQ index segment are the same.

### 13.2 Use Support Assessment Summary

Use support ratings were assigned for waters in subbasin 03-06-13 in the aquatic life, recreation, fish consumption and water supply categories. All waters are Impaired on an evaluated basis in the fish consumption category because of fish consumption advice that applies to the entire

Figure 16 Cape Fear River Subbasin 03-06-13



**Table 16 CAPE FEAR Subbasin 03-06-13**

AU Number	Classification	Length/Area	Aquatic Life Assessment				Recreation Assessment					
			AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	Stressors	Sources	
<b>Upper Little River</b>												
18-20-(24.5)	WS-IV	15.6 FW Miles	<b>S</b>	BA429	NCE	Low pH	9.1	<b>S</b>	BA429	NCE	Low pH	Unknown
From a point 0.6 mile downstream of Juniper Branch to Cape Fear River												
18-20-(8)a	C	4.3 FW Miles	<b>S</b>					<b>NR</b>			Habitat Degradation	
From dam at Lake Trace to Corndack Creek												
				BB261	GF	2003					Fecal Coliform Bacteria	WWTP NPDES

AL - Aquatic Life	BF - Fish Community Survey	E - Excellent	S - Supporting	I - Impaired
REC - Recreation	BB - Benthic Community Survey	G - Good	NR - Not Rated	
	BA - Ambient Monitoring Site	GF - Good-Fair	NR*- Not Rated for Recreation (screening criteria exceeded)	
	BL- Lake Monitoring	F - Fair	ND-No Data Collected to make assessment	
	S- DEH RECMON	P - Poor	<b>Results</b>	
	<b>Miles/Acres</b>	NI - Not Impaired	CE-Criteria Exceeded > 10% and more than 10 samples	
	FW - Fresh Water	S- Severe Stress	NCE-No Criteria Exceeded	
	S- Salt Water	M-Moderate Stress		
		N- Natural		

**Aquatic Life Rating Summary**

S m 19.9 FW Miles  
ND 209.3 FW Miles

**Recreation Rating Summary**

S m 15.6 FW Miles  
NR e 4.3 FW Miles  
ND 209.3 FW Miles

**Fish Consumption Rating Summary**

I e 229.2 FW Miles

basin. In the water supply category, all WS classified waters (37.5 miles) are Supporting on an evaluated basis based on reports from DEH regional water treatment plant consultants. Refer to Appendix X for a complete list of monitored waters and more information on Supporting monitored waters.

There were 19.9 stream miles (8.7 percent) monitored during this assessment period in the aquatic life category. There are no stream miles identified as Impaired in this category.

### **13.3 Status and Recommendations of Previously and Newly Impaired Waters**

The following waters were either identified as Impaired in the previous basin plan (2000) or are newly Impaired based on recent data. If previously identified as Impaired, the water will either remain on the state's 303(d) list or will be delisted based on recent data showing water quality improvements. If the water is newly Impaired, it will likely be placed on the 2006 303(d) list. The current status and recommendations for addressing these waters are presented below, and each is identified by an assessment unit number (AU#). Refer to the overview for more information on AUs. Information regarding 303(d) listing and reporting methodology is presented in Appendix VII.

#### **13.3.1 Upper Little River [AU#18-20-(24.5) and (8)a]**

##### Current Status

Upper Little River was Fully Supporting in the 2000 plan; however, Upper Little River [18-20-(24.5)] from downstream of Juniper Branch to the Cape Fear River (15.6 miles) is currently Supporting aquatic life because no criteria were exceeded at site BA429 although pH was below the standard in 9 percent of samples.

Upper Little River [18-20-(8)a] from Lake Trace to Corndack Creek (4.3 miles) is Supporting aquatic life because of a Good-Fair benthic community rating at site BB261, although moderate streambank erosion was noted at this site. Upper Little River was tannin stained, and the low pH levels may represent natural conditions. Carolina Trace (NC0038831) had significant violations of fecal coliform bacteria permit limits during the last two years of the assessment period and the segment is Not Rated for recreation.

##### 2005 Recommendations

DWQ will continue to monitor the Upper Little River watershed and reestablish benthic community sites that could not be monitored in 2003 because of high flows. Reestablishing these sites will allow DWQ to determine if the low pH values are due to natural swamp conditions. The NPDES compliance process will be used to address the significant permit violations noted above.

Segment 18-20-(24.5) will be added to the 303(d) list of Impaired waters. TMDLs (Chapter 35) will be developed for identified stressors within 8-13 years of listing.