

# Section B - Chapter 8

## Lumber River Subbasin 03-07-57

### Lower Waccamaw River

## 8.1 Subbasin Overview

### ***Subbasin 03-07-57 at a Glance***

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

Total area:	555 mi <sup>2</sup>
Land area:	552 mi <sup>2</sup>
Water area:	3 mi <sup>2</sup>

#### **Population Statistics**

2000 Est. Pop.: 37,457 people

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

Forest/Wetland:	74
Surface Water:	1
Urban:	<1
Agriculture:	25

#### **Counties**

Brunswick and Columbus

#### **Municipalities**

Carolina Shores, Calabash, Tabor City and Shallotte

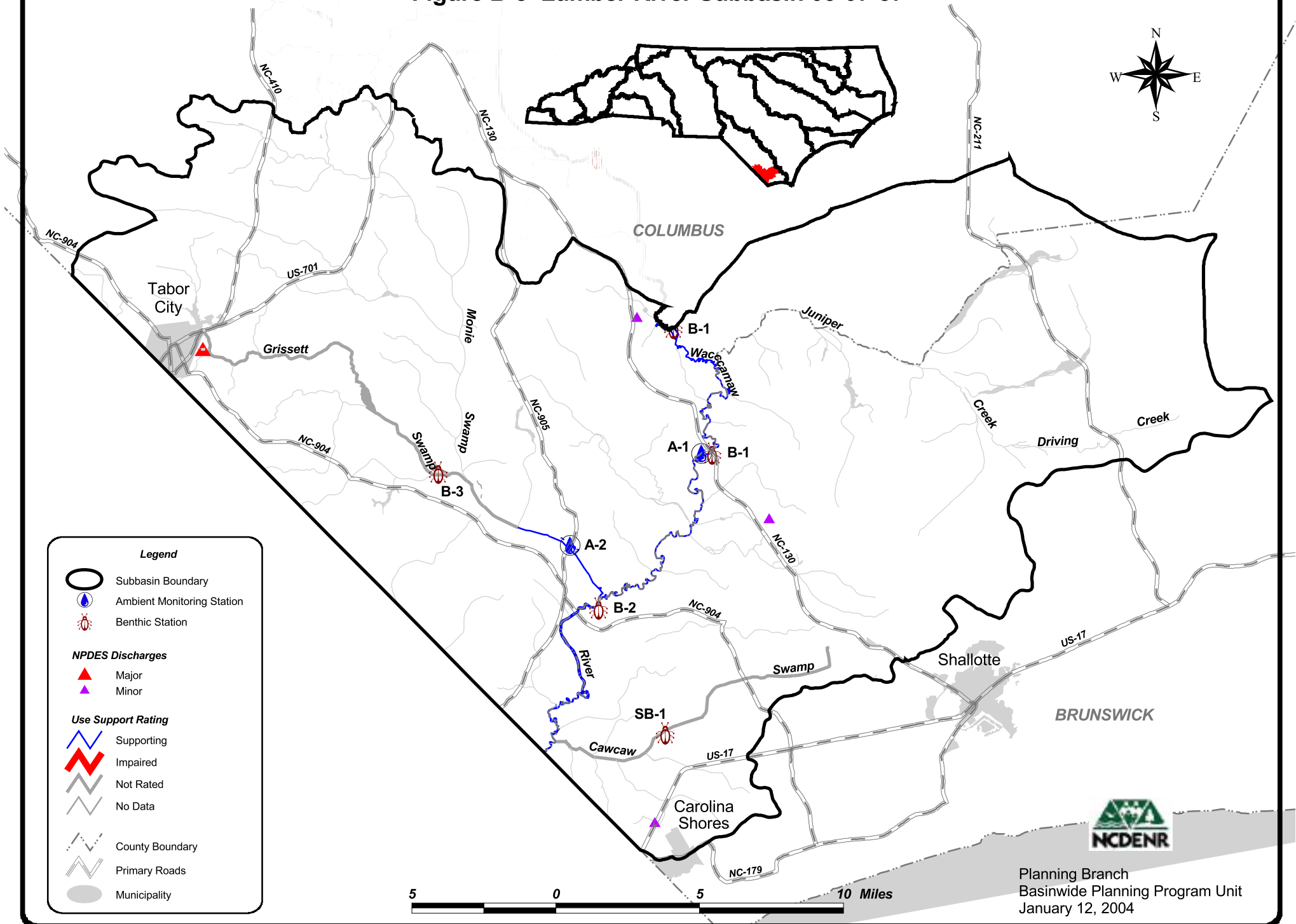
This subbasin lies partially in Columbus and Brunswick counties with population growth concentrating primarily around Tabor City (population: 2,509) and Calabash. Land use in this subbasin is largely forest and agriculture. Most of the tributary streams tend to be intermittent with little or no flow during the summer months.

There are four NPDES wastewater discharge permits in this subbasin with a total permitted flow of 1.6 MGD. The largest is Tabor City WWTP which discharges 1.1 MGD to Grissett Swamp. Refer to Appendix I for identification and more information on individual NPDES permit holders. Brunswick County will be required to develop a stormwater program under Phase II (page 69). There are also 15 registered swine operations in this subbasin.

There were four benthic macroinvertebrate community sites sampled in 2001 as part of basinwide monitoring. One site received a Good bioclassification and was last sampled in 1991. One site increased in bioclassification, and one site was Not Rated, as biocriteria were being

developed (page 57) to assess these swampy streams. There were two special study sites (SB-1 and SF-1) collected in the subbasin during the assessment period and were Not Rated as biocriteria are being developed. Data were also collected from three ambient monitoring stations. Refer to Figure B-8 and Table B-15 for locations and summaries of these monitoring sites. Refer to the *2002 Lumber River Basinwide Assessment Report* at <http://www.esb.enr.state.nc.us/bar.html> and Section A, Chapter 3 for more information on monitoring.

Figure B-8 Lumber River Subbasin 03-07-57



**Legend**

- Subbasin Boundary
- Ambient Monitoring Station
- Benthic Station
- NPDES Discharges**
- Major
- Minor
- Use Support Rating**
- Supporting
- Impaired
- Not Rated
- No Data
- County Boundary
- Primary Roads
- Municipality



Planning Branch  
 Basinwide Planning Program Unit  
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Table B-15 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1996-2001) for Subbasin 03-07-57

<b>Benthic Macroinvertebrate Community Monitoring Sites</b>					
<b>Site<sup>1</sup></b>	<b>Waterbody</b>	<b>County</b>	<b>Location</b>	<b>1996</b>	<b>2001</b>
B-1	Waccamaw River <sup>2</sup>	Columbus	NC 130	Good-Fair	Good
B-2	Waccamaw River <sup>2</sup>	Columbus	NC 904	--	Good
B-3	Grissett Swamp	Columbus	SR 1141	--	Not Rated
SB-1	Caw Caw Swamp	Brunswick	SR 1305	Not Rated	Not Rated
<b>Fish Community Monitoring Sites</b>					
<b>Site<sup>1</sup></b>	<b>Waterbody</b>	<b>County</b>	<b>Location</b>	<b>1996</b>	<b>2001</b>
SF-1	Seven Creek	Columbus	NC 905		Not Rated
<b>Ambient Monitoring Sites</b>					
<b>Site<sup>1</sup></b>	<b>Waterbody</b>	<b>County</b>	<b>Location</b>	<b>Station #</b>	<b>Noted Parameters<sup>3</sup></b>
A-1	Waccamaw River	Columbus	NC 130	I8970000	None
A-2	Seven Creek	Columbus	NC 905	I9310000	None
A-3*	Waccamaw River	Horry SC	SC 9 near Longs SC	I9350000	None

<sup>1</sup> B = benthic macroinvertebrates; SB = benthic macroinvertebrates special study site; SF = fish community special study site; and A = ambient monitoring station.

<sup>2</sup> Historical data available at this site. Refer to Appendix II.

<sup>3</sup> Parameters are noted if in excess of state standards in greater than 10 percent of all samples.

\* Not shown on map.

Use support ratings are summarized in Part 8.2 below. Recommendations, current status and future recommendations for waters that were Impaired in 1999 and newly Impaired waters are discussed in Part 8.3 below. Water quality issues related to specific waterbodies with noted impacts are discussed in Part 8.4. Water quality issues related to the entire subbasin are discussed in Part 8.5. Refer to Appendix III for use support methods and more information on all monitored waters.

## 8.2 Use Support Summary

Use support ratings (page 47) in subbasin 03-07-57 were assigned for aquatic life, recreation and fish consumption categories. All waters in the subbasin are considered Impaired on an evaluated basis because of a fish consumption advice (page 59). Refer to Table B-16 for a summary of use support ratings by category for waters in the subbasin.

Table B-16 Summary of Use Support Ratings by Use Support Category in Subbasin 03-07-57

Use Support Rating	Basis	Aquatic Life	Recreation	Fish Consumption
Supporting	Monitored	41.2 mi	32.3 mi	0
	All Waters	41.2 mi	32.3 mi	0
Impaired	Monitored	0	0	0
	All Waters	0	0	358.7 mi
Not Rated	Monitored	33.1 mi	0	0
No Data	N/A	284.3 mi	326.3 mi	0
Total	Monitored	74.4 mi	32.3 mi	0
	All Waters	358.7 mi	358.7 mi	358.7 mi
	Percent Monitored	20.7%	9.0%	0%

Note: All waters include monitored, evaluated and waters that were not assessed.

### 8.3 Status and Recommendations of Previously and Newly Impaired Waters

There were no Impaired streams identified in the 1999 Lumber River Basinwide Plan in this subbasin. All waters in the subbasin are considered Impaired on an evaluated basis because of a fish consumption advice (page 59). There are no other newly Impaired waters in subbasin 03-07-57.

### 8.4 Status and Recommendations for Waters with Noted Impacts

The surface waters discussed in this section are not Impaired. However, notable water quality problems and concerns have been documented for some waters based on this assessment. Attention and resources should be focused on these waters to prevent additional degradation or facilitate water quality improvement.

Waters in the following section are identified by assessment unit number (AU#). This number is used to track defined segments in the water quality assessment database and the 303(d) Impaired waters list. 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.

#### **8.4.1 Lower Waccamaw River [AU# 15-(1)e]**

##### Current Status and 2003 Recommendations

Waccamaw River at NC 130 and NC 904 in Columbus County is currently Supporting based on Good bioclassifications at sites B-1 and B-2. However, habitat degradation was noted with steep and severely eroded riverbanks. DWQ will continue to monitor water quality in the river to evaluate possible impacts.

Although, the Waccamaw River is currently Not Impaired in North Carolina, it is Impaired in South Carolina for dissolved oxygen, copper and mercury. Consequently, in the future, North Carolina would be subject to an interstate TMDL. DWQ will work cooperatively with South Carolina as they develop a TMDL for the Lower Waccamaw River.

##### Current Water Quality Initiatives

In 2000, the North Carolina Coastal Land Trust prepared a riparian corridor conservation design for the Conservation Trust for North Carolina and the NC Clean Water Management Trust Fund. The goal of the design is to protect 59 miles of existing riparian buffers along the Waccamaw River and Juniper Creek. The NC Wildlife Resources Commission received a \$9,000,000 grant from the CWMTF for acquiring 2,530 acres along the Waccamaw River and Juniper Creek. See page 152 for project description.

#### **8.4.2 Grissett Swamp [AU# 15-17-1-(5)]**

##### Current Status and 2003 Recommendations

Grissett Swamp is currently Not Rated. Tabor City WWTP experienced noncompliance issues with fecal coliform bacteria, ammonia, biochemical oxygen demand and toxicity test failures in this assessment period. In the spring of 2001, the facility completed a SOC. DWQ staff continues to work with the facility.

##### Current Water Quality Initiatives

As of August 2002, Tabor City received a State Revolving Grant of \$3,000,000 to extend their wastewater lines to the Waccamaw River. However, other alternatives are being investigated and a final solution has not been determined. As of December 2002, Tabor City WWTP received a \$570,000 grant from the CWMTF for wastewater improvements. See page 152 for project description.

#### **8.4.3 Bear Branch [AU# 15-11]**

##### Current Status and 2003 Recommendations

The Waccamaw Elementary School-Brunswick County experienced noncompliance issues with fecal coliform bacteria and ammonia. As of May 2003, the facility's noncompliance problems have not been resolved. DWQ continues to work with the facility to rectify the problems.

#### **8.4.4 Leonard Branch [AU# 15-7-4]**

##### Current Status and 2003 Recommendations

Leonard Branch, a tributary of Juniper Creek, was impacted by discharge of animal wastewater from a sprayfield operation. The owner was assessed a civil penalty. DWQ will continue to inspect this operation.

#### **8.4.5 Big Branch [AU# 15-17-1-12-1-1]**

##### Current Status and 2003 Recommendations

Big Branch, a tributary of Beaver Dam Swamp, was impacted by discharge of animal wastewater from a sprayfield operation. The owner was assessed a civil penalty. DWQ will continue to inspect this operation.

#### **8.4.6 Juniper Swamp, Upper Waccamaw River, Middle Waccamaw River, Gore Creek and Big Creek**

##### Current Water Quality Initiatives

Juniper Swamp, Upper Waccamaw River, Middle Waccamaw River, Gore Creek and Big Creek watersheds comprise five of 20 watersheds in the Lumber River basin that have been identified by the NC Wetlands Restoration Program (NCWRP) as an area with the greatest need and opportunity for stream and wetland restoration efforts. This watershed will be given higher priority than nontargeted watersheds for the implementation of NCWRP restoration projects. Refer to page 147 in Section C for more information.

### **8.5 Additional Water Quality Issues within Subbasin 03-07-57**

This section discusses issues that may threaten water quality in the subbasin. The issues discussed may be related to waters near certain land use activities or within proximity to different pollution sources.

#### **8.5.1 Impacts of Post-Hurricane De-Snagging on Instream Habitats (Monie Swamp)**

Many streams in the subbasin have noted impacts from the recent hurricanes. Monie Swamp was not sampled during this assessment period because de-snagging efforts eliminated much of the important habitat for aquatic fauna. The biological community in the streams can recover rapidly if instream habitat is maintained. De-snagging operations should carefully remove debris from stream channels to restore natural flow and leave enough instream habitats so the biological community can recover. For more information on this issue, refer to page 68.

#### **8.5.2 Green Swamp**

A proposed 100-acre landfill by Reigel Ridge LLC in the Green Swamp near the Columbus and Brunswick County line has been a very contentious issue for local residents and environmental groups. One primary concern is that a portion of the landfill would be constructed in the

floodplain causing potential impacts (leachate) to groundwater and surface water. As of September 2003, the Division of Solid Waste Management returned the application to Reigel Ridge LLC for failure to provide sufficient financial information.

### **8.5.3 Golf Courses (Caw Caw Swamp, Calabash River)**

The number of golf courses in Brunswick County has expanded so vastly over the last five years making many of the small towns centers for golfing activity. Utilizing best management practices during and after construction of the courses can greatly reduce nonpoint source pollution to adjacent streams. It is critical to implement and maintain these management practices throughout the life of the golf course. See page 78 for more information.