

Section B - Chapter 7

Lumber River Subbasin 03-07-56

Lake Waccamaw, Big Creek, Upper Waccamaw River and Bogue Swamp

7.1 Subbasin Overview

Subbasin 03-07-56 at a Glance

Land and Water Area

Total area:	216 mi ²
Land area:	202 mi ²
Water area:	14 mi ²

Population Statistics

2000 Est. Pop.: 10,959 people

Land Cover (percent)

Forest / Wetland:	79
Surface Water:	7
Urban:	1
Agriculture:	13

Counties

Bladen and Columbus

Municipalities

Bolton and Lake Waccamaw

Land use in this subbasin is primarily forested and agriculture with some developed areas around Lake Waccamaw. Portions of Bladen and Columbus counties are located in this subbasin. All tributary streams tend to be intermittent with little or no flow during summer months. This pattern is related to the poorly drained soils of the region with little storage of groundwater.

There are 1,732 acres of managed public lands in this subbasin associated with the Lake Waccamaw State Park. Lake Waccamaw is the largest natural bay lake in southeastern North Carolina and is widely considered to be one of the most unique lakes in southeastern United States. The shallow, clear, high water quality and limestone bluffs along Lake Waccamaw's north shore neutralizes the lake's water and provides a unique habitat for a very diverse aquatic community such as endemic fish and mollusk species. In 2000, Lake Waccamaw was designated an Outstanding Resource Water (see page 36, regarding surface water classifications). The Town of Lake Waccamaw, in conjunction with Friends of Lake

Waccamaw State Park, has received a Section 319 grant to reduce nonpoint source impacts to the lake (refer to Section C for more information).

There are two NPDES wastewater discharge permits in this subbasin with a total permitted flow of 0.4 MGD. Refer to Appendix I for identification and more information on individual NPDES permit holders. There are six registered swine operations in this subbasin.

Three benthic macroinvertebrate community sites were sampled (Figure B-7 and Table B-13) in 2001 as part of basinwide monitoring. Both sites on Friar Swamp were Not Rated, as biocriteria were being developed (page 57) to assess these swampy streams. Lakes assessment was also conducted in 2001 on Lake Waccamaw as part of basinwide monitoring. Data showed mesotrophic to oligotrophic conditions, with generally low to moderate nutrient concentrations for the lake. Data were also collected from one ambient station. 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-7 Lumber River Subbasin 03-07-56

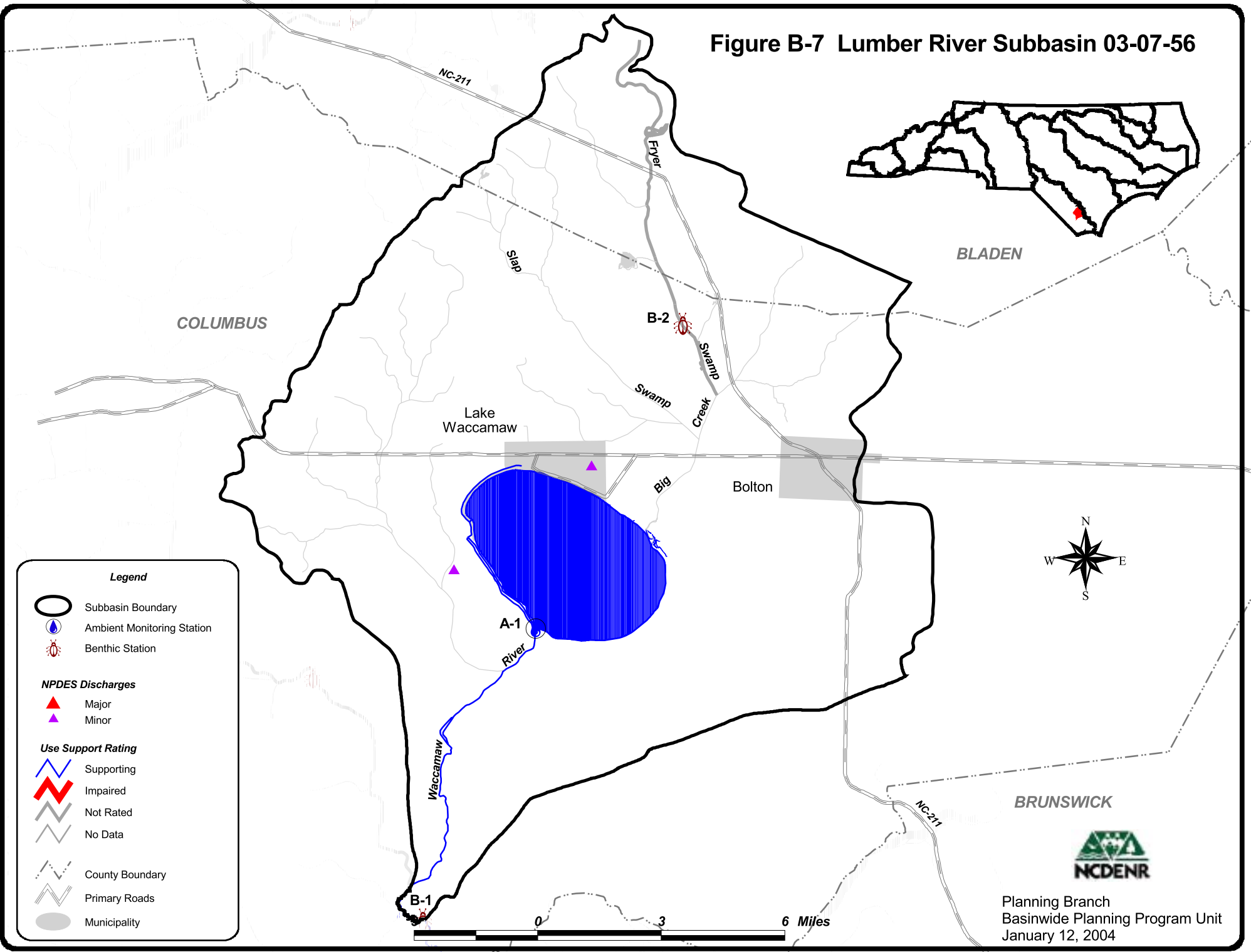


Table B-13 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1996-2001) for Subbasin 03-07-56

Benthic Macroinvertebrate Community Monitoring Sites					
Site¹	Waterbody	County	Location	1996	2001
B-1	Waccamaw River ²	Columbus	SR 1928	--	Good
B-2	Friar Swamp	Columbus	SR 1740	Not Rated	Not Rated
SB-1	Friar Swamp	Columbus	SR 1740	Not Rated (1997-1999)	--
Ambient Monitoring Sites					
Site¹	Waterbody	County	Location	Station #	Noted Parameters³
A-1	Waccamaw River	Columbus	Dam spillway	I7730000	None

¹ B = benthic macroinvertebrates; SB = benthic macroinvertebrates special study site; A = ambient monitoring station.

² Historical data available at this site. Refer to Appendix II.

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

Use support ratings are summarized in Part 7.2 below. Recommendations, current status and future recommendations for waters that were Impaired in 1999 and newly Impaired waters are discussed in Part 7.3 below. Supporting waters with noted water quality impacts are discussed in Part 7.4 below. Water quality issues related to the entire subbasin are discussed in Part 7.5. Refer to Appendix III for use support methods and more information on all monitored waters.

7.2 Use Support Summary

Use support ratings (page 47) in subbasin 03-07-56 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-14 for a summary of use support ratings by category for waters in the subbasin.

Table B-14 Summary of Use Support Ratings by Use Support Category in Subbasin 03-07-56

Use Support Rating	Basis	Aquatic Life	Fish Consumption	Recreation
Supporting	Monitored	10.5 mi 8,840.2 ac	0	8,840.2 ac
	All Waters	10.5 mi 8,840.2 ac	0	8,840.2 ac
Impaired	Monitored	0	0	0
	All Waters	0	98.0 mi 8,840.2 ac	0
Not Rated	Monitored	12.0 mi	0	0
No Data	N/A	75.9 mi	0	98.0 mi 0 ac
Total	Monitored	22.1 mi 8,840.2 ac	0	8,840.2 ac
	All Waters	98.0 mi 8,840.2 ac	98.0 mi 8,840.2 ac	98.0 mi 8,840.2 ac
	Percent Monitored	22.6% mi 100% ac	0%	100% ac

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

7.3 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 03-07-56. Refer to Part 7.5 below for information on waters with noted water quality impacts.

7.4 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.

7.4.1 Upper Waccamaw River [AU# 15-(1)c]

Current Status and 2003 Recommendations

Upper Waccamaw River at SR 1928 in Columbus County is currently Supporting based on a Good bioclassification from the B-1 site. Habitat degradation (page 62) was noted with bank erosion, breaks in riparian zones and de-snagging efforts. When last sampled prior to this assessment in 1991, this site received an Excellent bioclassification. DWQ will continue to monitor this segment to determine if this decline is due to a change in water quality or due to hurricane-related changes in habitat.

Current Water Quality Initiatives

The Upper Waccamaw River watershed comprises one of 20 watersheds in the Lumber River basin that has 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.

7.4.2 Lake Waccamaw [AU# 15-2]

Current Water Quality Initiatives

The Town of Lake Waccamaw received a \$4,500,000 grant from the CWMTF to construct a stormwater retention system. See page 152 for project description. Lake Waccamaw has also been funded a \$588,000 State Revolving Loan for new collection lines.

7.4.3 Friar Swamp [AU# 15-2-6-3]

Current Status and 2003 Recommendations

Friar Swamp is currently Not Rated. An unnamed tributary of Friar 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.

7.5 Additional Water Quality Issues within Subbasin 03-07-56

This section discusses issues that may threaten water quality in the subbasin that are not specific to particular streams, lakes or reservoirs. The issues discussed may be related to waters near certain land use activities or within proximity to different pollution sources.

Many streams in the subbasin have noted impacts from the recent hurricanes. 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.