4.1 Subbasin Overview

Subbasin 03-07-53 at a Glance

Land and Water Area

Total area:	454 mi^2
Land area:	445 mi^2
Water area:	9 mi^2

Population Statistics

2000 Est. Pop.: 47,513 people

Land Cover (percent)

Forest/Wetland:	46
Surface Water:	<1
Urban:	<1
Agriculture:	37

Counties

Bladen, Columbus, Hoke and Robeson

Municipalities

Bladenboro, Boardman, Dublin, Lumber Bridge, Parkton, Rennert, Saint Pauls and Tar Heel

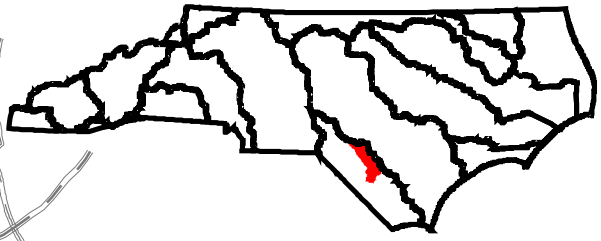
Big Swamp is the main tributary in this subbasin. Many of the riparian zones contain undeveloped, forested pocosin wetlands. Big Swamp and its tributaries are typical swamp streams with tannin-colored water and very low summer flows. This subbasin is rural and is heavily farmed, primarily in row crops. Larger municipalities include the towns of Bladenboro, Saint Pauls and Parkton.

There are five NPDES wastewater discharge permits in this subbasin with a total permitted flow of 1.2 MGD. Refer to Appendix I for identification and more information on NPDES permit holders. Hoke County will be required to develop a stormwater program under Phase II (page 69). Hoke County's estimated population change is 24,245 for the 2000-2020 year projection (see Table A-5 in Section A for more details). The largest number of registered swine animal operations in the entire Lumber River basin is located in this subbasin at 37 facilities.

Two benthic macroinvertebrate community sites were sampled in 2001 as part of basinwide monitoring. Both sites were Not Rated, as biocriteria were being developed (page 57) to assess swamp streams. One fish community site was sampled as part of a special study investigation for developing criteria to assess nonwadeable coastal streams (page 57). Data were collected from one ambient monitoring station as well. See Figure B-4 and Table B-7 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.

Use support ratings are summarized in Part 4.2 below. Recommendations, current status and future recommendations for waters that were Impaired in 1999 and newly Impaired waters are discussed in Part 4.3 below. Supporting waters with noted water quality impacts are discussed in Part 4.4 below. Water quality issues related to the entire subbasin are discussed in Part 4.5. Refer to Appendix III for use support methods and more information on all monitored waters.

Figure B-4 Lumber River Subbasin 03-07-53



Dundarrach
Parkton
Lumber Bridge
Big
Little
Marsh
NC-71
NC-211
NC-20
NC-59
I-95
NC-87
HOKE
CUMBERLAND
Gallberry
Swamp
Saint Pauls
B-1
Rennert
B-2
NC-710
Tar Heel
BLADEN
Big
NC-131
Dublin
ROBESON
NC-41
Jackson
I-95
A-1
Bladenboro
Boardman
COLUMBUS
NC-242
NC-410

N
W
E
S

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

4 0 4 8 *Miles*

NCDENR

Planning Branch
Basinwide Planning Program Unit
January 12, 2004

Table B-7 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1996-2001) for Subbasin 03-07-53

Benthic Macroinvertebrate Community Monitoring Sites					
Site[1]	**Waterbody**	**County**	**Location**	**1996**	**2001**
B-1	Little Marsh Swamp	Robeson	SR 1907	--	Not Rated
B-2	Big Marsh Swamp[2]	Robeson	SR 1924	--	Not Rated
Fish Community Monitoring Sites					
Site[1]	**Waterbody**	**County**	**Location**	**1996**	**2001**
SF-1	Big Swamp	Robeson	SR 1002	--	Not Rated
Ambient Monitoring Sites					
Site[1]	**Waterbody**	**County**	**Location**	**Station #**	**Noted Parameters**[3]
A-1	Big Swamp	Robeson	NC 211	I5370000	None

[1] B = benthic macroinvertebrates; SF = fish community special study site; and 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.

4.2 Use Support Summary

Use support ratings (page 47) in subbasin 03-07-53 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-8 for a summary of use support ratings by category for waters in the subbasin.

Table B-8 Summary of Use Support Ratings by Use Support Category in Subbasin 03-07-53

Use Support Rating	Basis	Aquatic Life	Recreation	Fish Consumption
Supporting	Monitored	15.4 mi	15.4 mi	0
	All Waters	15.4 mi	15.4 mi	0
Impaired	Monitored	0	0	0
	All Waters	0	0	329.1 mi
Not Rated	Monitored	48.0 mi	0	0
No Data	N/A	265.8 mi	313.7 mi	0
Total	Monitored	63.4 mi	15.4 mi	0
	All Waters	329.1 mi	329.1 mi	329.1 mi
	Percent Monitored	19.3%	4.7%	0%

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

4.3 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 03-07-53. Refer to Part 4.4 below for information on waters with noted water quality impacts.

4.4 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.

4.4.1 Dunns Marsh [AU# 14-22-1-3-2]

Current Status and 2003 Recommendations

The Parkton WWTP has experienced significant noncompliance issues with fecal coliform bacteria levels and failing toxicity tests. The plant has improved and continues to improve regarding their fecal coliform levels. As of December 2002, the facility continued to experience toxicity problems associated with chlorine and has made modifications to address this issue. DWQ will continue to work with the plant regarding failing toxicity tests.

Current Water Quality Initiatives

As of December 2002, the facility received a $670,000 grant from the CWMTF for sewer rehabilitation. See page 152 for project description.

4.4.2 Mill Swamp [AU# 14-22-9]

Current Status and 2003 Recommendations

Mill Swamp, a tributary of Big 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.

4.4.3 Cold Camp Creek

Current Water Quality Initiatives
The Cold Camp Creek 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.

4.4.4 Big Marsh Swamp [AU# 14-22-2]

Current Water Quality Initiatives
The Town of St. Pauls received a total of $391,000 in grants from the CWMTF and a $1,186,000 State Revolving Grant for wastewater facility upgrades. See page 152 for project descriptions.

4.4.5 Bryant Swamp [AU# 14-22-15]

Current Water Quality Initiatives
The Town of Bladenboro received a $1,863,000 grant from the CWMTF for a wastewater land application system. See page 152 for project description.

4.5 Additional Water Quality Issues within Subbasin 03-07-53

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

A large majority of the land use in this subbasin is agriculture. Most of these streams are threatened by excessive loading of nutrients, contaminants and sedimentation. In order to prevent aquatic habitat degradation and impaired biological communities, protection measures must be put in place immediately. Refer to page 76 for a description of water quality problems and recommendations for reducing impacts to and restoring water quality in these waters.