Section B - Chapter 3
Lumber River Subbasin 03-07-52
Raft Swamp

3.1 Subbasin Overview

Subbasin 03-07-52 at a Glance

Land and Water Area

Total area:	171 mi^2
Land area:	170 mi^2
Water area:	1 mi^2

Population Statistics

2000 Est. Pop.: 18,848 people

Land Cover (percent)

Forest/Wetland:	49
Surface Water:	<1
Urban:	1
Agriculture:	1

Counties

Hoke and Robeson

Municipalities

Lumberton, Raeford, Red Springs and Rennert

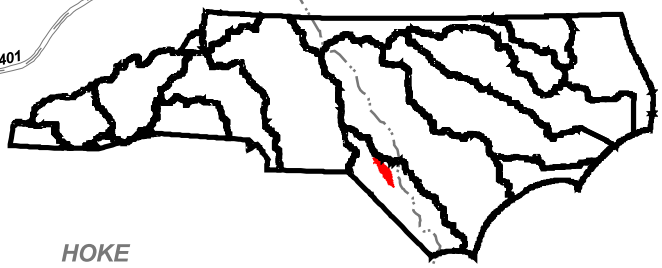
This subbasin is within Hoke and Robeson counties. The riparian zones along Raft Swamp and many of the major tributaries contain wetlands. The upland sections of the catchments are in heavy agricultural land use.

Little Raft Swamp drains out of the heaviest populated municipality, Red Springs (population: 3,493). There are three NPDES wastewater discharge permits in this subbasin with a total permitted flow of 3.5 MGD (Figure B-3). The largest is Red Springs WWTP discharging 2.5 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. There are also seven registered swine animal operations in this subbasin.

There were three benthic macroinvertebrate community sites sampled in 2001 as part of basinwide monitoring. All three sites were Not Rated, as biocriteria were being developed (page 57) to assess swamp streams. One of the benthic sites was a special study investigation. Data were collected from two ambient monitoring stations as well. See Figure B-3 and Table B-5 for more information on location and summaries for these data 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 3.2 below. Recommendations, current status and future recommendations for waters that were Impaired in 1999 and newly Impaired waters are discussed in Part 3.3 below. Supporting waters with noted water quality impacts are discussed in Part 3.4 below. Water quality issues related to the entire subbasin are discussed in Part 3.5. Refer to Appendix III for use support methods and more information on all monitored waters.

Figure B-3 Lumber River Subbasin 03-07-52



Raeford
HOKE
SCOTLAND
ROBESON
Red Springs
Rennert
Lumberton
Raft
Little
Swamp
NC-211
US-401
NC-20
NC-71
NC-710
NC-72
NC-711
I-95
A-1
A-2
B-1
B-2
SB-1

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

N W E S

3 0 3 6 *Miles*

NCDENR

Planning Branch
Basinwide Planning Program Unit
January 12, 2004

Table B-5 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1996-2001) for Subbasin 03-07-52

Benthic Macroinvertebrate Community Monitoring Sites					
Site[1]	**Waterbody**	**County**	**Location**	**1996**	**2001**
B-1	Raft Swamp	Robeson	SR 1505	--	Not Rated
B-2	Little Raft Swamp	Robeson	SR 1505	--	Not Rated
SB-1	Little Raft Swamp	Robeson	SR 1776	--	Not Rated
Ambient Monitoring Sites					
Site[1]	**Waterbody**	**County**	**Location**	**Station #**	**Noted Parameters**[2]
A-1	Raft Swamp	Robeson	SR 1527	I3690000	None
A-2	Raft Swamp	Robeson	NC 71	I3730000	None

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

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

3.2 Use Support Summary

Use support ratings (page 47) in subbasin 03-07-52 were assigned for aquatic life, recreation, fish consumption and water supply categories. All waters in the subbasin are considered Impaired on an evaluated basis because of a fish consumption advice (page 59). All water supply waters are Supporting on an evaluated basis based on reports from DEH regional water treatment consultants. Refer to Table B-6 for a summary of use support ratings by category for waters in the subbasin.

Table B-6 Summary of Use Support Ratings by Use Support Category in Subbasin 03-07-52

Use Support Rating	Basis	Aquatic Life	Recreation	Fish Consumption	Water Supply
Supporting	Monitored	37.0 mi	37.0 mi	0	0
	All Waters	37.0 mi	37.0 mi	0	39.4 mi
Impaired	Monitored	0	0	0	0
	All Waters	0	0	142.3 mi	0
Not Rated	Monitored	19.9 mi	0	0	0
No Data	N/A	85.4 mi	105.3 mi	0	0
Total	Monitored	56.9 mi	37.0 mi	0	0
	All Waters	142.3 mi	142.3 mi	142.3 mi	39.4 mi
	Percent Monitored	40.0%	26%	0%	0%

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

3.3 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 03-07-52. Refer to Part 3.4 below for information on waters with noted water quality impacts.

3.4 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.

3.4.1 Little Raft Swamp [AU# 14-10-5]

Current Status and 2003 Recommendations

Little Raft Swamp is currently Not Rated. The Red Springs WWTP has experienced past noncompliance problems with fecal coliform bacteria and ammonia levels as well as toxicity test failures. The facility is under a Special Order of Consent and is required to address these issues as well as investigate other alternatives for discharge relocation. In February 2001, DWQ conducted a benthic macroinvertebrate special study investigation on Little Raft Swamp to determine if there were impacts from the WWTP. While the conductivity was much lower at the upstream site than at the downstream site, there was no clear shift in the benthic community. 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.

Current Water Quality Initiatives

As of December 2002, the Town of Red Springs received a $351,000 grant from the Clean Water Management Trust Fund for sewer rehabilitation. See page 152 for project description.

3.4.2 Lower Raft Swamp

Current Water Quality Initiatives

Lower Raft Swamp 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.

3.5 Additional Water Quality Issues within Subbasin 03-07-52

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.

3.5.1 Water Supply Watersheds (Raft Swamp, Richland Swamp, Burnt Swamp, White Oak Branch, Holy Swamp)

A total of 39.4 total stream miles (27.7 percent) in this subbasin are classified as water supply watersheds (WS-IV). See page 36 for more information regarding surface water classifications. Local governments having jurisdiction within the water supply watersheds are encouraged to implement a more protective local water supply watershed ordinance than the state's minimal requirements. For example, a more protective land use ordinance could require a wider natural, undisturbed riparian buffer. Local governments are also encouraged to retain these water supply classifications. This will continue further protection for the water supply watersheds. See page 39 for more information regarding this issue.