

## Section B - Chapter 6

### Lumber River Subbasin 03-07-55

#### Gum Swamp, Leith Creek and Shoe Heel Creek

## 6.1 Subbasin Overview

### ***Subbasin 03-07-55 at a Glance***

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

|             |                     |
|-------------|---------------------|
| Total area: | 391 mi <sup>2</sup> |
| Land area:  | 387 mi <sup>2</sup> |
| Water area: | 4 mi <sup>2</sup>   |

#### **Population Statistics**

2000 Est. Pop.: 44,626 people

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

|                   |    |
|-------------------|----|
| Forest / Wetland: | 61 |
| Surface Water:    | 1  |
| Urban:            | 1  |
| Agriculture:      | 37 |

#### **Counties**

Gibson, Laurinburg, Maxton,  
Rowland and Wagram

#### **Municipalities**

Richmond, Robeson and Scotland

Most of this subbasin lies within the Sandhills ecoregion, characterized by sandy streams with year-round flow. The headwaters of Gum Swamp and Shoe Heel Creek are located in the Sandhills Game Land Area. Land use is a mixture of agriculture and forest, with some urban areas near Laurinburg and Maxton. Portions of Richmond, Scotland and Robeson counties are located in this subbasin.

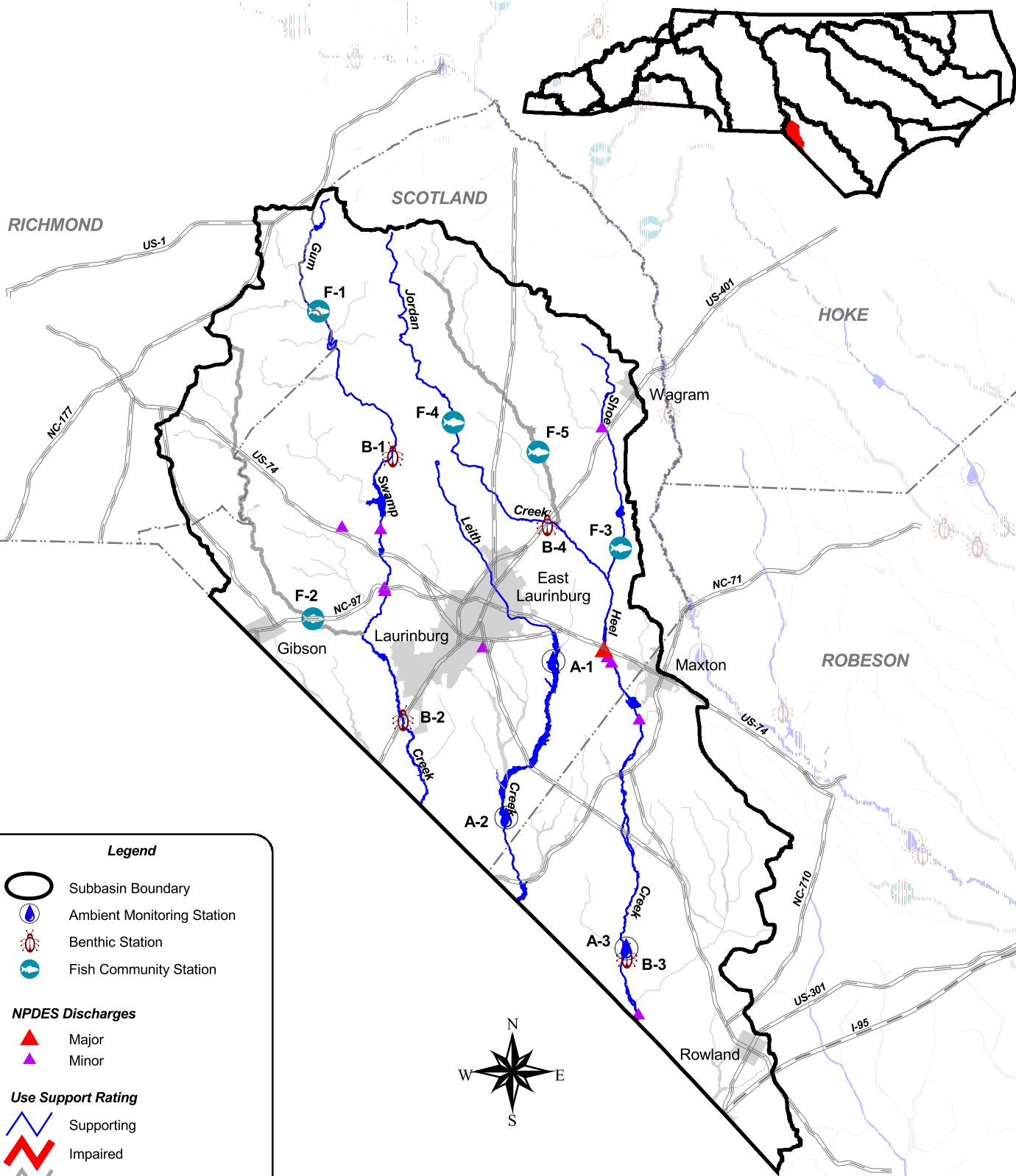
There are 11 NPDES wastewater discharge permits in this subbasin with a total permitted flow of 5.4 MGD. There is one individual NPDES stormwater permit in the subbasin, and there are also 30 registered swine operations in this subbasin.

There were four benthic macroinvertebrate community sites sampled in 2001 as part of basinwide monitoring. Two of the sites remained at the same bioclassification. One site received a higher bioclassification since the 1996 sampling and the other site received a lower bioclassification. Five fish community sites were sampled for the first time in this subbasin. All of the fish

community sites were Not Rated, as biocriteria are being developed (page 57). See Figure B-6 and Table B-11 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 6.2 below. Recommendations, current status and future recommendations for waters that were Impaired in 1999 and newly Impaired waters are discussed in Part 6.3 below. Supporting waters with noted water quality impacts are discussed in Part 6.4 below. Water quality issues related to the entire subbasin are discussed in Part 6.5. Refer to Appendix III for use support methods and more information on all monitored waters.

Figure B-6 Lumber River Subbasin 03-07-55



**Legend**

- Subbasin Boundary
- Ambient Monitoring Station
- Benthic Station
- Fish Community 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-11 DWQ Monitoring Locations, Bioclassifications and Notable Chemical Parameters (1996-2001) for Subbasin 03-07-55

| <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                                                         | Gum Swamp <sup>2</sup>       | Scotland      | SR 1323         | Good-Fair        | Good                                |
| B-2                                                         | Gum Swamp <sup>2</sup>       | Scotland      | US 15/401       | Good             | Good                                |
| B-3                                                         | Shoe Heel Creek <sup>2</sup> | Robeson       | SR 1101         | Excellent        | Good                                |
| B-4                                                         | Jordan Creek                 | Scotland      | US 401          | Good-Fair        | Good-Fair                           |
| <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>                         |
| F-1                                                         | Gum Swamp                    | Scotland      | SR 1344         | --               | Not Rated                           |
| F-2                                                         | Joes Creek                   | Scotland      | NC 79           | --               | Not Rated                           |
| F-3                                                         | Shoe Heel Creek              | Scotland      | SR 1433         | --               | Not Rated                           |
| F-4                                                         | Jordan Creek                 | Scotland      | SR 1324         | --               | Not Rated                           |
| F-5                                                         | Juniper Creek                | Scotland      | SR 1405         | --               | 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                                                         | Leith Creek                  | Scotland      | SR 1609         | I0490000         | None                                |
| A-2                                                         | Leith Creek                  | Scotland      | SR 1615         | I0510000         | Fecal coliform bacteria             |
| A-3                                                         | Shoe Heel Creek              | Robeson       | SR 1101         | I1530000         | None                                |

<sup>1</sup> B = benthic macroinvertebrates; F = fish community; 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.

## 6.2 Use Support Summary

Use support ratings (page 47) in subbasin 03-07-55 were assigned for aquatic life, recreation and fish consumption category. All waters in the subbasin are considered Impaired on an evaluated basis because of a fish consumption advice (page 59). Refer to Table B-12 for a summary of use support ratings by category for waters in the subbasin.

Table B-12 Summary of Use Support Ratings by Use Support Category in Subbasin 03-07-55

| Use Support Rating | Basis             | Aquatic Life | Fish Consumption | Recreation |
|--------------------|-------------------|--------------|------------------|------------|
| Supporting         | Monitored         | 106.4 mi     | 0                | 52.1 mi    |
|                    | All Waters        | 106.4 mi     | 0                | 52.1 mi    |
| Impaired           | Monitored         | 0            | 0                | 0          |
|                    | All Waters        | 0            | 254.1 mi         | 0          |
| Not Rated          | Monitored         | 28.5 mi      | 0                | 5.0 mi     |
| No Data            | N/A               | 125.2        | 0                | 203.1 mi   |
| Total              | Monitored         | 134.9 mi     | 0                | 57.2 mi    |
|                    | All Waters        | 260.2 mi     | 260.2 mi         | 260.2 mi   |
|                    | Percent Monitored | 51.8%        | 0%               | 22.5%      |

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

### 6.3 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 03-07-55. Refer to Part 6.4 below for information on waters with noted water quality impacts.

### 6.4 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.

#### **6.4.1 Leith Creek [AU# 14-33b]**

##### *Current Status and 2003 Recommendations*

Leith Creek is currently Supporting for the aquatic life category. It is concurrently Not Rated for the recreation category. Data from the ambient monitoring station I0510000, located at SR 1615 near Smyrna Church in Scotland County, show an elevated fecal coliform bacteria level. Specifically, these data show more than 20 percent of the samples were greater than 400 colonies per 100 ml. Typically, these data are identified for potential follow-up monitoring conducted five times within 30 days as specified by the state fecal coliform bacteria standard. Due to limited resources and the higher risk to human health, primary recreation waters (Class B, SB and SA) will be given monitoring priority for additional five times within 30 days sampling. However, this stream segment is classified C, Sw and follow-up water quality sampling for Class C waters will be performed as resources permit. See page 66 for more information on fecal coliform bacteria. For more detailed information regarding use support methodology, refer to Appendix III.

##### *Current Water Quality Initiative*

The Town of Gibson received a \$286,500 grant from the CWMTF to rehabilitate the wastewater collection system. See page 152 for project description.

#### **6.4.2 Shoe Heel Creek [AU# 14-34]**

##### *Current Status and 2003 Recommendations*

Shoe Heel Creek at SR 1101 in Robeson County is currently Supporting based on a Good bioclassification at site B-3. However, the bioclassification has lowered from the 1996 sample. DWQ will continue to monitor this site to determine if there are any long-term changes in water quality. Rowland WWTP has been noncompliant with inflow and infiltration limits. The facility is currently on a Special Order of Consent. DWQ will continue to work with the facility to rectify their issue.

##### *Current Water Quality Initiative*

During this assessment period (1996-2001), the Town of Wagram tied into Laurinburg-Maxton Airport WWTP which eliminated the town's septic system.

#### **6.4.3 Jordan Creek [AU# 14-34-4-(2)]**

##### *Current Status and 2003 Recommendations*

Jordan Creek at US 401 in Scotland County has the same bioclassification as in 1996 and currently is Supporting based on a Good-Fair bioclassification at site B-4. However, the stream appears to be channelized at the US 401 bridge and sand has filled in many of the pools. A lack of good instream habitat was also noted in the 2001 assessment, thus, resulting in a benthic macroinvertebrate abundance decline. DWQ will continue to monitor this site to determine if there are any long-term changes in water quality.

#### **6.4.4 Upper Beaverdam Creek [AU# 14-32-9]**

##### *Current Water Quality Initiative*

NC Wildlife Resources Commission received a \$46,000 grant from the CWMTF to acquire 100 acres along Upper Beaverdam Creek. See page 152 for project description.

#### **6.4.5 Panther Swamp/Bear Creek, Wilkinson Creek and Mitchell Swamp**

##### *Current Water Quality Initiatives*

Panther Swamp/Bear Creek, Wilkinson Creek and Mitchell Swamp watersheds comprise three 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.

### **6.5 Additional Water Quality Issues within Subbasin 03-07-55**

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.

Most of the streams in this subbasin that are not already Impaired from urban stormwater runoff are threatened by development pressure throughout this subbasin. In order to prevent aquatic habitat degradation and impaired biological communities, protection measures must be put in place immediately. Refer to page 73 for a description of urban stream water quality problems and recommendations for reducing impacts to and restoring water quality in these waters.