

Chapter 6 -

French Broad River Subbasin 04-03-06

Includes North and South Toe Rivers and Nolichucky River

6.1 Water Quality Overview

Subbasin 04-03-06 at a Glance

Land and Water Area (sq. mi.)

Total area:	466
Land area:	465
Water area:	1

Population Statistics

1990 Est. Pop.:	29,806 people
Pop. Density:	64 persons/mi ²

Land Cover (%)

Forest/Wetland:	87%
Surface Water:	<1%
Urban:	<1%
Cultivated Crop:	<1%
Pasture/ Managed Herbaceous:	11%

Use Support Ratings

Freshwater Streams:

Fully Supporting:	555.7 miles
Partially Supporting:	0.0 miles
Not Supporting:	0.0 miles
Not Rated:	166.5 miles

Much of the land in this subbasin is within the Pisgah National Forest, although there is scattered agricultural and industrial activities throughout the subbasin. The largest community is the Town of Spruce Pine, near the Blue Ridge Parkway. A map of this subbasin, including water quality sampling locations, is presented in Figure B-9. Overall biological ratings are presented in Table B-6.

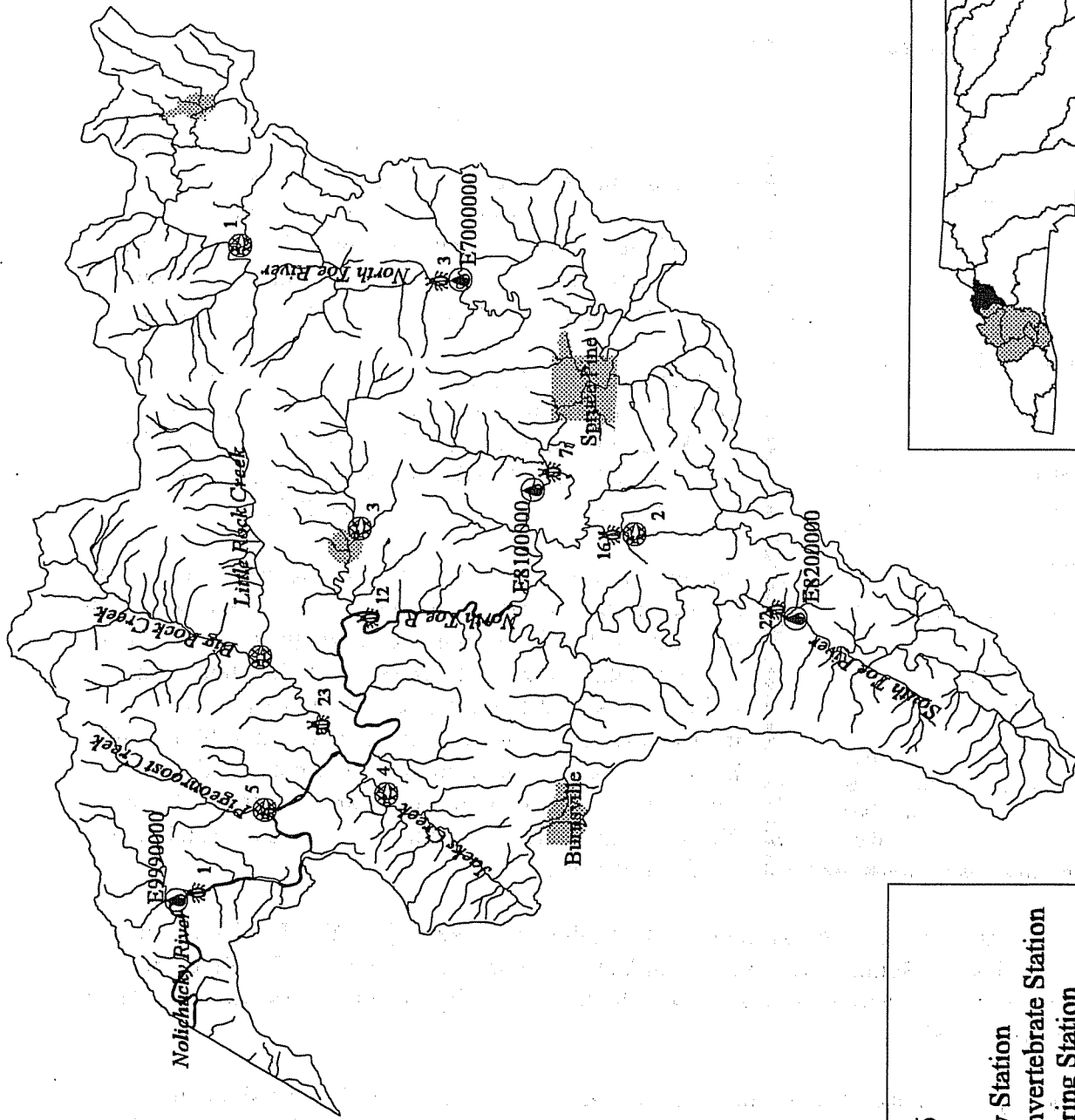
Ambient water quality data have been collected at five locations in this subbasin: two sites each on the North Toe River and the South Toe River, and one site on the Nolichucky River. The data does not indicate any concerns or significant changes since 1992.

Benthic macroinvertebrate samples have been collected at 23 sites in this subbasin since 1983. In the seven sites that were sampled in 1997, four sites were given an Excellent rating and three were rated Good. The Nolichucky River and two sites on the North Toe River have shown steady improvements in water quality since the mid-1980s. Only Big Rock Creek, a large tributary in northern Mitchell County had a decline in rating (from Excellent to Good). The site is in an area of agricultural land use, which may be affecting this site.

The South Toe River is classified as an Outstanding Resource Water (ORW). The Excellent ratings achieved at the Nolichucky River site in Yancey County and the North Toe River site in Avery County could make these waters draining to these sites eligible for reclassification to High Quality Waters (HQW).

Fish community data was collected from five sites in this subbasin in 1997. One site (Big Crabtree Creek) was also assessed with benthos; the other fish community collections were from sites that had not been previously assessed.

Of the 23 permitted dischargers in this subbasin, only 4 are major dischargers (>0.5 MGD). Six mining companies and the Spruce Pine WWTP currently monitor effluent toxicity under their NPDES permit.



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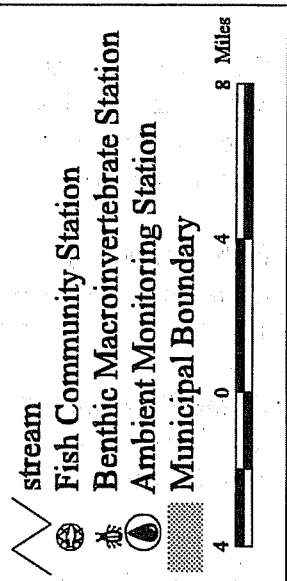


Figure B-9 Sampling Locations within Subbasin 04-03-06

Table B-6 Basinwide Biological Sites in French Broad River Subbasin 04-03-06 (1997)°

Site #	Stream	County	Road	Rating
<i>Benthic Macroinvertebrates</i>				
B-1	Nolichucky River	Yancey	SR 1321	Excellent
B-3	North Toe River	Avery	US 19E	Excellent
B-7	North Toe River	Mitchell	SR 1162	Good
B-12	North Toe River	Yancey	SR 1314	Good
B-16	Big Crabtree Creek	Mitchell	US 19E	Excellent
B-22	South Toe River	Yancey	SR 1167	Excellent
B-23	Big Rock Creek	Mitchell	NC 197	Good
<i>Fish Community</i>				
F-1	North Toe River	Avery	SR 1121	Not Rated*
F-2	Big Crabtree Creek	Mitchell	SR 1002	Not Rated*
F-3	Cane Creek	Mitchell	SR 1211	Not Rated*
F-4	Jacks Creek	Yancey	SR 1337	Not Rated*
F-5	Pigeonroost Creek	Mitchell	SR 1349	Not Rated*

* Refer to Section A, Chapter 3 for more information on fish community ratings

° Locations of ambient monitoring stations can be found in Section A, Table A-25

For more detailed information on water quality in this subbasin, refer to the *Basinwide Assessment Report – French Broad River Basin – November 1998*, available from the DWQ Environmental Sciences Branch at (919) 733-9960.

6.2 Prior Basinwide Plan Recommendations (1995) and Achievements

6.2.1 Impaired Waters

There were no streams identified as impaired in this subbasin in the 1995 French Broad River Basinwide Plan.

6.3 Current Priority Issues and Recommendations

6.3.1 Monitored Impaired Waters

There are no waters currently rated as impaired in this subbasin.

6.3.2 303(d) Listed Waters

Only Right Fork Cane Creek is on the state's year 2000 (not yet EPA approved) 303(d) list for this subbasin. Right Fork Cane Creek was previously rated based on evaluated information. Use support methodology has been improved, and only monitored data are now used in use support determinations (see Appendix III). However, this stream is required to remain on the 303(d) list

until sampling is conducted to assess current water quality conditions. Refer to Appendix IV for more information on the state's 303(d) methodology and listing requirements.

6.3.3 Other Issues and Recommendations

The following surface water segments are rated as fully supporting using recent DWQ monitoring data. However, these data revealed some impacts to water quality. Although no action is required for these surface waters, continued monitoring is recommended. Enforcement of sediment and erosion control laws will help to reduce impacts on these streams. DWQ encourages the use of voluntary measures to prevent water quality degradation. Education on local water quality issues is always a useful tool to prevent water quality problems and to promote restoration efforts. For information on water quality education programs and nonpoint source agency contacts, see Appendix VI.

The North Toe River (32.5 miles from Grassy Creek to the South Toe River) has been sampled by DWQ since 1984. Prior to 1997, this site historically received a Poor to Good-Fair benthic rating. An improvement in the benthic macroinvertebrate community resulted in a Good bioclassification in 1997. This station may be affected by runoff from the Town of Spruce Pine and effluent from 5 dischargers, including 4 mine processors. Most of the failed discharger toxicity tests were during 1986 and 1987, the years with Fair bioclassifications. Since 1989, only occasional non-consecutive fails have occurred at the mine processors. The Spruce Pine WWTP has failed only one toxicity test (in 1996). Habitat degradation and turbidity are noted problem parameters for this stretch of the river. DWQ will continue to monitor the river to assess possible impacts from the mine processors. The implementation of urban BMPs around the Town of Spruce Pine is recommended to protect the river from future impacts of urban runoff. DWQ will notify local agencies of water quality concerns for this creek and work with these various agencies to conduct further monitoring and assist agency personnel with locating sources of water quality protection funding.

DWQ is conducting a special study of water quality on the Nolichucky River to determine if the river can be reclassified from a Class C water to a Class B water. The Class B classification is intended to protect the primary recreational value of this river in addition to the Class C protections. Refer to Section A, Chapter 3, Part 3.2 for more information.