Chapter 3 -
French Broad River Subbasin 04-03-03
Includes Mills River and Davidson River

3.1 Water Quality Overview

Subbasin 04-03-03 at a Glance

Land and Water Area (sq. mi.)

Total area:	141
Land area:	141
Water area:	0

Population Statistics

1990 Est. Pop.:	7,530 people
Pop. Density:	53 persons/mi^2

Land Cover (%)

Forest/Wetland:	89%
Surface Water:	<1%
Urban:	<1%
Cultivated Crop:	2%
Pasture/ Managed Herbaceous:	8%

Use Support Summary

Freshwater Streams:

Fully Supporting:	222.4 miles
Partially Supporting:	1.9 miles
Not Supporting:	4.6 miles
Not Rated:	4.3 miles

Much of the land in this subbasin lies within the Pisgah National Forest or Pisgah Game Lands. There are no large urban areas within the subbasin, although some development exists along the major highways (NC 280 and NC 191). Much of the subbasin outside the national forest is in agricultural land use, especially dairies and row crops. This subbasin contains 8 permitted dischargers, but none with a permitted discharge greater than 0.2 MGD. A map of this subbasin, including water quality sampling locations, is presented in Figure B-3. Overall biological ratings are presented in Table B-3.

As a result of minimal development in the Pisgah National Forest, many of the streams in this area have an Excellent rating based on macroinvertebrate samples. Most of the South Fork Mills River watershed is classified ORW, and most of the Davidson River watershed is classified HQW. Excellent water quality has also been recorded in the North Fork Mills River and the upper part of the Mills River.

Ambient water chemistry samples from three sites on the Mills River, Bradley Creek and the Davidson River showed no water quality problems. These sites were characterized by slightly acidic pH (minimum values about 5.3), low nutrient values and very low conductivity.

Benthic macroinvertebrate samples have been collected at 15 sites in this subbasin since 1983, including four special studies. Five sites were sampled for benthic macroinvertebrates during basinwide collections in 1997. Benthic macroinvertebrate sampling found severe water quality problems in the lower part of the Mills River, downstream of pesticide mixing areas associated with tomato farming. This water quality problem constitutes the only decline in water quality observed in this subbasin.

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.

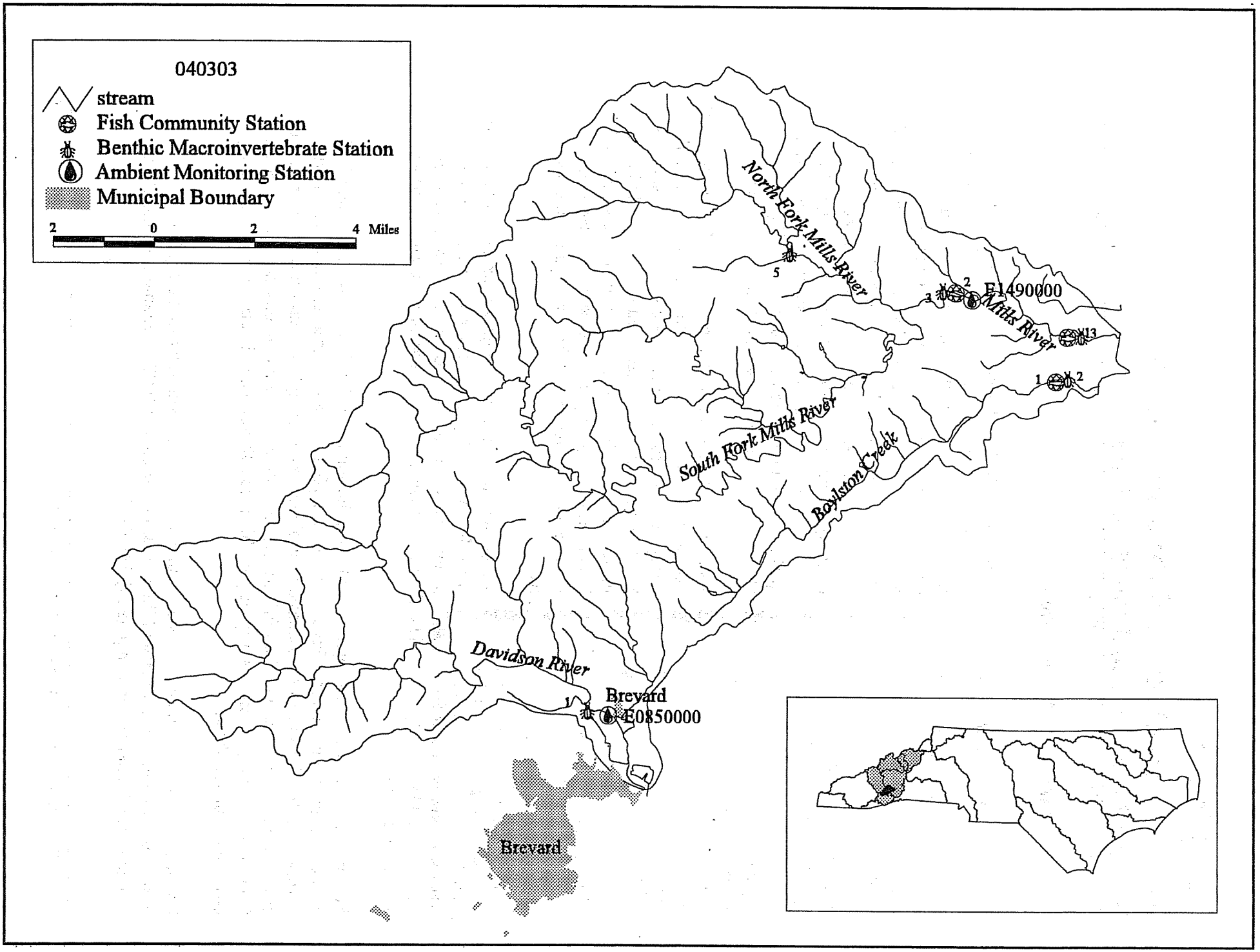

Figure B-3 Sampling Locations within Subbasin 04-03-03

Table B-3 Basinwide Biological Sites in French Broad River Subbasin 04-03-03 (1997)°

Site #	Stream	County	Road	Rating
Benthic Macroinvertebrates				
B-1	Davidson River	Transylvania	US 276	Excellent
B-2	Boylston Creek	Henderson	SR 1314	Good-Fair
B-3	Mills River	Henderson	SR 1337	Excellent
B-5	North Fork Mills	Henderson	ab Rocky Br	Excellent
B-13	Mills River	Henderson	SR 1353	Good-Fair
Fish Community				
F-1	Boylston Creek	Henderson	SR 1314	Not Rated*
F-2	Mills River	Henderson	SR 1337	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

3.2 Prior Basinwide Plan Recommendations (1995) and Achievements

3.2.1 Impaired Waters

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

3.3 Current Priority Issues and Recommendations

Portions of the Mills River and all of Brandy Branch are considered to be impaired based on recent DWQ data (see Part 3.3.1). These waters are also on the state's year 2000 (not yet EPA approved) 303(d) list (see Part 3.3.2).

3.3.1 Monitored Impaired Waters

Mills River (4.6 miles from SR 1337 to the City of Hendersonville water supply intake, located 0.1 miles upstream of NC 191)

This section of the Mills River is rated as impaired (NS) due to impacts on the benthic macroinvertebrate community from agricultural nonpoint sources (tomato farms in particular) and possibly pesticides. Approximately one mile downstream, the Asheville-Buncombe Water Authority also withdraws water from the Mills River.

2000 Recommendation(s)

At the time of the 1995 French Broad River Basinwide Plan, Van Wingerden International was under a Special Order by Consent (SOC) due to excessive nutrients being discharged to a nearby pond with drainage to the Mills River. The SOC is a legal agreement between the state and the company that sets an enforceable time schedule for correcting problems at the facility. Van

Wingerden International has been making significant progress under the SOC agreement. Approximately 75% of the 35 acres of greenhouses are now on a recirculation system. The entire system is scheduled to be under recirculation, thereby eliminating the effluent from the greenhouses. A domestic waste NPDES permit will remain in effect for the operation.

The Mills River Partnership formed with various stakeholders to address pesticides in this watershed. A Clean Water Management Trust Fund grant was awarded to work with farmers to eliminate pesticide/herbicide chemical mixing and handling stations and move these away from the river. Some portion of this funding will also be used to restore buffers and provide streambank erosion control. See Section C, Chapter 1 for more information on this project. DWQ will rely on these local initiatives to address pesticide concerns and continue to monitor the river for improvements.

Brandy Branch (1.9 miles from source to Mills River)

This branch is listed as impaired (PS) due to nonpoint source pollution. This site was most recently sampled by DWQ in 1994. Brandy Branch is affected by both agricultural land use and residential activities, including the Mills River Village.

2000 Recommendation(s)

There is not enough information available to determine what efforts might be needed to restore Brandy Branch. A more in-depth study should be conducted to identify the land use activities or streambank problems that are causing degradation of this creek. There is currently not enough staff available at the state level to make this commitment. Local projects aimed at identifying sources of pollution and necessary actions would be very useful to DWQ and various funding agencies. 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.

3.3.2 303(d) Listed Waters

Segments of both the Mills River and Brandy Branch are on the state's year 2000 (not yet EPA approved) 303(d) list for this subbasin. These streams are currently impaired and discussed above (Part 2.3.1). Refer to Appendix IV for more information on the state's 303(d) methodology and listing requirements.

3.3.3 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. 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.

Withdrawals from the lower Davidson River are of interest to DWQ. Ecusta, a division of P.H. Glatfelter Inc., is located at the mouth of the Davidson River as it joins the French Broad. Ecusta is currently permitted to withdraw 27.5 MGD for water supply and processing from the lower Davidson River. The river, under 7Q10 conditions, may be impacted from this withdrawal. To minimize the impacts associated with the withdrawal under low flow conditions, Ecusta has initiated a recycling effort and reduced withdrawals to 20.5 MGD. Ecusta hopes to reduce withdrawals an additional 3-5 MGD. During very low flow conditions, Ecusta withdraws from the French Broad River as opposed to the lower Davidson River. DWQ will continue to monitor the Davidson River and assess any improvements to water quality resulting from this initiative.

Boylston Creek (12.1 miles from source to French Broad River) is impacted by both agricultural activities and nonurban development in the watershed. This creek could benefit from the development and implementation of appropriate BMPs for various land uses.