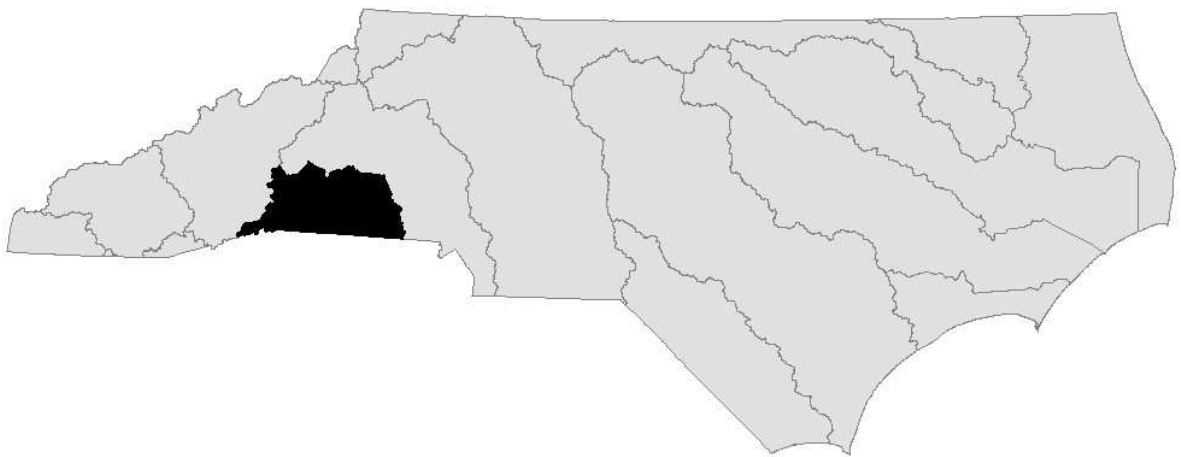


**Broad River Basin
Basinwide Assessment Report
Whole Effluent Toxicity Program
2006-2010**



The Division of Water Quality's Whole Effluent Toxicity Monitoring Program

Acute and/or chronic toxicity tests are used to determine toxicity of discharges to sensitive aquatic species (usually fathead minnows or the water flea, *Ceriodaphnia dubia*). Results of these tests have been shown by researchers to be predictive of discharge effects to receiving stream populations.

Many facilities are required to monitor whole effluent toxicity (WET) by their NPDES permit. Facilities without monitoring requirements may have their effluents evaluated for toxicity by DWQ's Aquatic Toxicology Laboratory. If toxicity is detected, DWQ may include aquatic toxicity testing upon permit renewal.

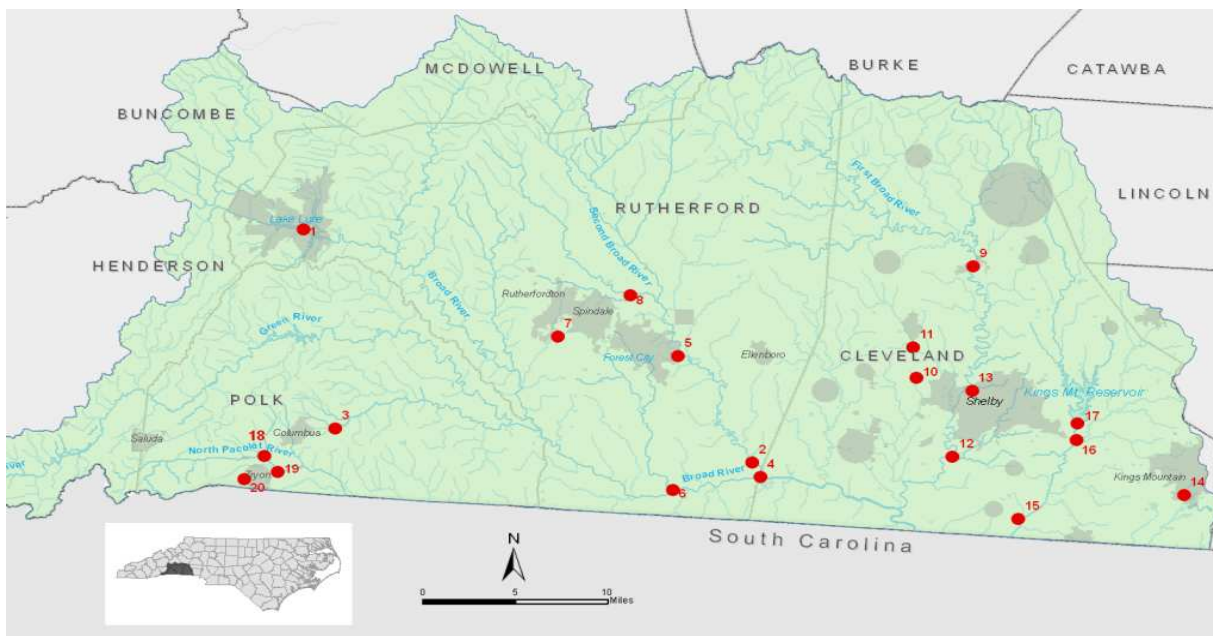
DWQ's Aquatic Toxicology Unit maintains a compliance summary for all facilities required to perform tests and provides a monthly update of this information to regional offices and WQ administration. Ambient toxicity tests can be used to evaluate stream water quality relative to other stream sites and/or a point source discharge.

WET Monitoring in the Broad River Basin – 2006-2010

Twenty two facility permits in the Broad River basin currently require whole effluent toxicity (WET) monitoring (Figure 1 and Table 1). Fourteen facility permits are active and have a WET limit. Five facility permits requires monitoring without a limit. There are 3 active permits that are not currently discharging.

The Division of Water Quality began including whole effluent toxicity (WET) limits in NPDES permits in 1987. The Aquatic Toxicology Unit began measuring compliance rates with those limits in 1990. The compliance of each facility is evaluated on a quarterly basis. Facilities are evaluated on each test submitted. A notice of violation (NOV) can be issued when the WET limit of the NPDES permit is violated. WET NPDES protocol provides for an increase in WET monitoring when a limit has been violated. For example, in certain NPDES permits, facilities are required to perform a pass/fail chronic test. If the facility fails this test then additional testing is required by the facility. The facility would be required to perform a minimum of one full range chronic test in each of the following two months. The additional tests are evaluated and compliance is determined according to the NPDES requirements.

Figure 1. Broad River basin facilities required to conduct whole effluent toxicity testing



Key

1	Lake Lure WWTP	7	Rutherfordton WWTP	13	Shelby WTP	19	Tryon WWTP
2	Cliffside Plant WWTP	8	Spindale WWTP	14	Chemetall Foote Corp	20	Tryon WTP
3	Columbus WWTP	9	E-flex, LLC WWTP	15	CNA Holdings, Inc	21	Town of Forest City WTP
4	Duke Power - Cliffside	10	Jefferson Smurfit Corp.	16	Pilot Ck WWTP	22	Cleveland Co. WTP
5	Forest City WWTP	11	PPG - Shelby	17	City of Ellison WTP		
6	Riverstone Ind Pk WWTP	12	Shelby WWTP	18	Grover Industries, Inc		

The Town of Forest City WWTP had one month of non-compliance in the first quarter of 2008 (Table 1). The problem for this failure was not known. They have not had any other WET compliance issues during this 5 year cycle.

The Town of King's Mountain has had two month of non compliance. The second quarter of 2006 and the second quarter of 2009 were the only non-compliant months in the 5 year cycle. This facility was under the copper and zinc action level policy and had copper and Zinc added to their permit in July 2010.

Table 1. Broad River basin facilities required to conduct whole effluent toxicity testing

Subbasin/Facility	NPDES Permit No.	Receiving Stream	County	2006-2010 Compliance
03-08-01				Monthly Non-Compliance
Lake Lure WWTP	NC0025381/001	Broad River	Rutherford	
03-08-02				
Cliffside Plant WWTP	NC0004405/001	Second Broad R.	Rutherford	
Columbus WWTP	NC0021369/001	UT White Oak Cr.	Polk	
Duke Power - Cliffside	NC0005088/002	Broad R.	Rutherford	
Forest City WWTP	NC0025984/001	Second Broad R.	Rutherford	1
Forest City-Riverstone Ind Pk WWTP	NC0087084/001	Broad R.	Rutherford	
Rutherfordton WWTP	NC0025909/001	Cleghorn Cr.	Rutherford	
Spindale WWTP	NC0020664/001	Cathy's Cr.	Rutherford	
03-08-04				
E-flex, LLC WWTP	NC0004120/001	First Broad R.	Cleveland	
Jefferson Smurfit Corp.	NC0005061/001	E. Fk Beaverdam Cr.	Cleveland	
PPG - Shelby	NC0004685/001	Brushy Cr.	Cleveland	
Shelby WWTP	NC0024538/001	First Broad R.	Cleveland	
Town of Shelby	NC0027197/001	UT to First Broad R.	Cleveland	
Cleveland County WTP	NC0051918/001	First Broad River	Cleveland	1NR *
03-08-05				
Chemetall Foote Corporation	NC0033570/001	Kings Cr.	Cleveland	
CNA Holdings, Inc.	NC0004952/001	Buffalo Cr.	Cleveland	
Grover Industries, Inc. - Cleveland	NC0083984/001	Buffalo Cr.	Cleveland	
King's Mtn.-Pilot Cr. WWTP	NC0020737/001	Buffalo Cr.	Cleveland	2
King's Mtn.-City of Ellison WTP	NC0079740/001	BuffaloCr.	Cleveland	
03-08-06				
Grover Industries, Inc.- Polk	NC0004391/001	N. Pacolet R.	Polk	
Tryon WWTP	NC0021601/001	Vaughn Cr.	Polk	
Tryon WTP	NC0086525/001	UT to N. Pacolet R.	Polk	

* NR- Non Report- NOV for not reporting results of test