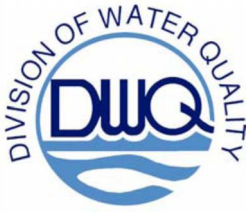
Hiwassee River Basin
Basinwide Assessment Report
Whole Effluent Toxicity Program

2005-2009



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 Hiwassee River Basin: 2005-2009

Two facility permits in the Hiwassee River basin require whole effluent toxicity (WET) monitoring (Figure 1 and Table 1)

Figure 1 Facilities within the Hiwassee River Basin conducting WET testing

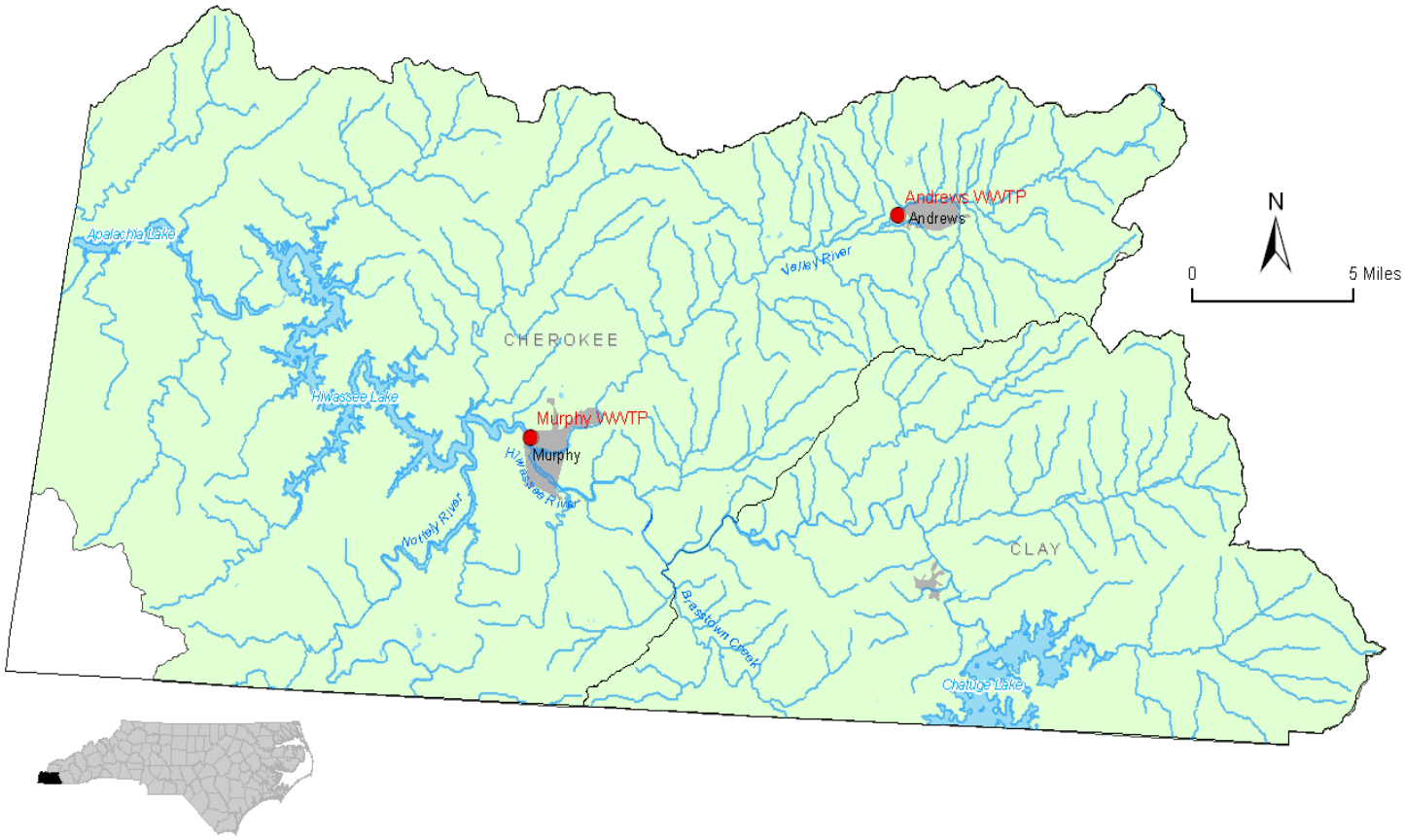


Table 1. Hiwassee River basin facilities required to conduct whole effluent toxicity testing

HUC/Facility	NPDES Permit No.	Receiving Stream	County	Flow (MGD)	IWC (%)	7Q10 (cfs)	2005- 2009 Passes	2005- 2009 Fails
06010103								
Andrews WWTP	NC0020800/001	Valley River	Cherokee	1.5	13	15	21	1
Murphy WWTP	NC0020940/001	Hiwassee	Cherokee	0.93	1.5	97	22	0

Andrews WWTP passed all but one WET test during this 5 year basin cycle for the period 2005 through 2009. They passed the two additional tests following the failure and were compliant for the quarter. Murphy WWTP had passed all WET tests during this 5 year period.