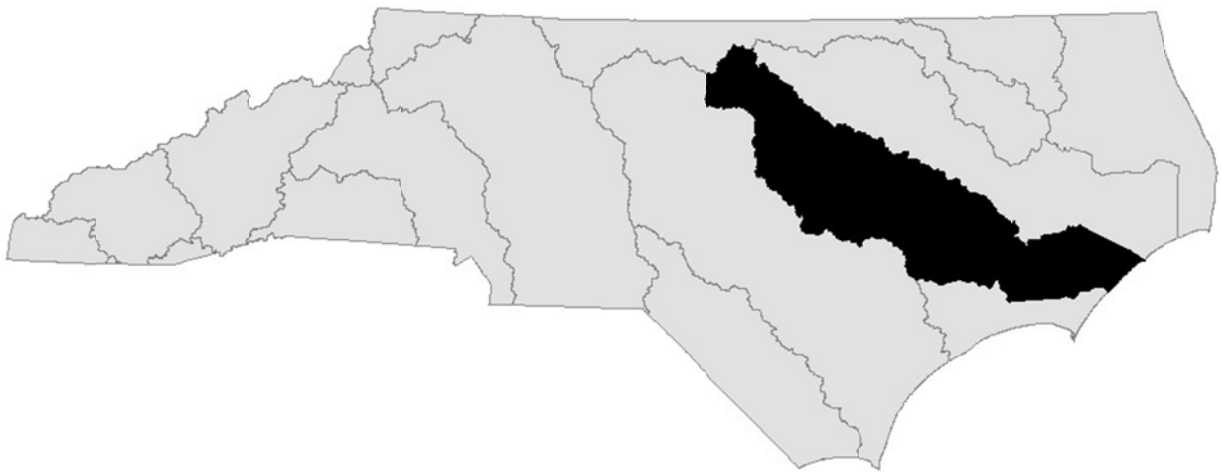


Neuse River Basin
Basinwide Assessment Report
Whole Effluent Toxicity Program
2006-2010



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.

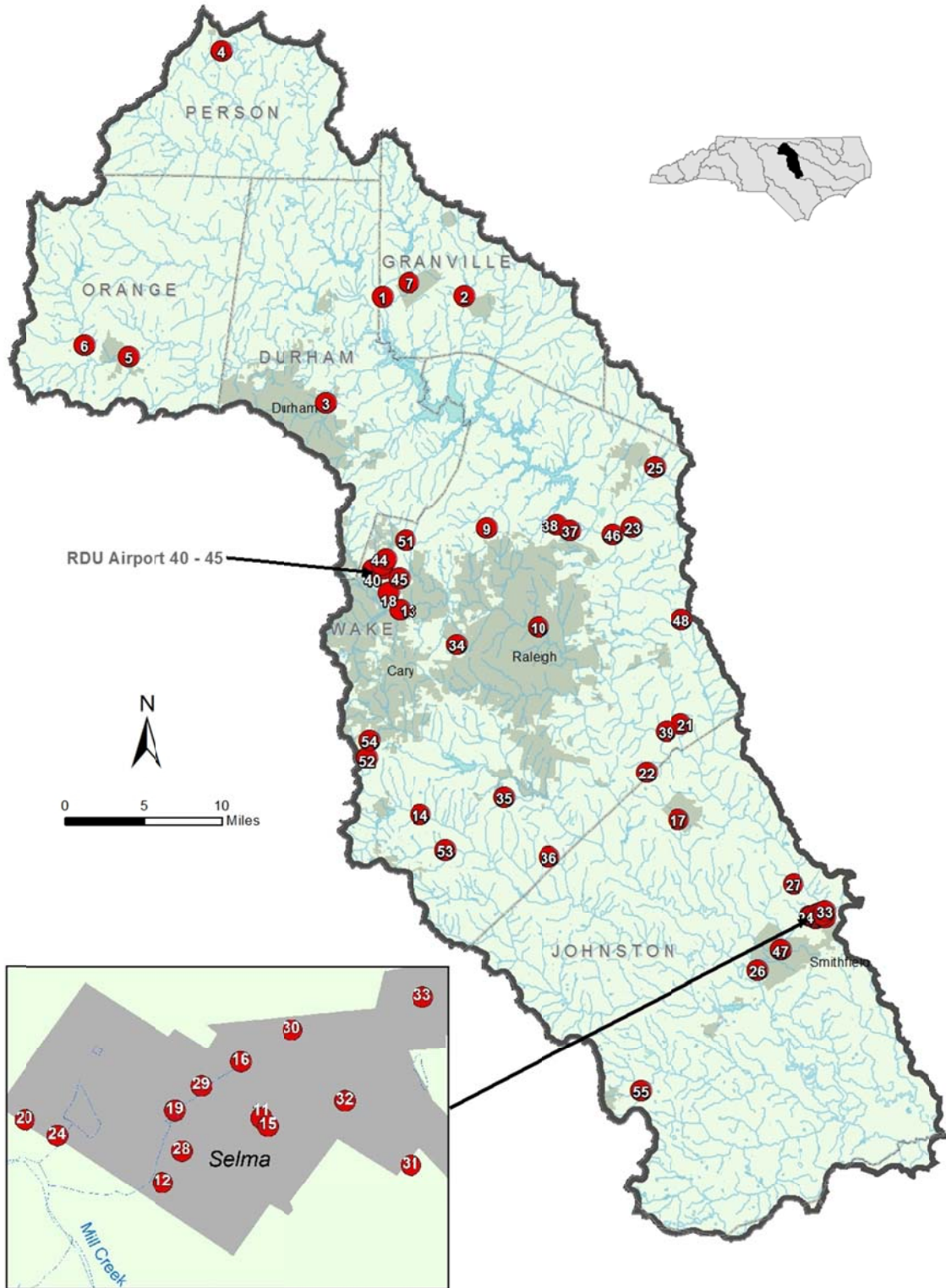
Many facilities are required to monitor whole effluent toxicity (WET) by their NPDES permit. Facilities without monitoring requirements may have their effluents evaluated for toxicity by DWQ's Aquatic Toxicology Laboratory. If toxicity is detected, DWQ may include aquatic toxicity testing upon permit 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 Neuse River Basin – 2006-2010

There are eighty seven facility permits in the Neuse River basin that currently require whole effluent toxicity (WET) monitoring (Figures 1, 2 and Table 1). Forty-one facility permits have a WET limit while twenty-six require monitoring without a limit; the majority of the latter are episodic discharges associated with petroleum storage complexes. Eleven of the eighty-seven facilities have an active permit but are not currently discharging

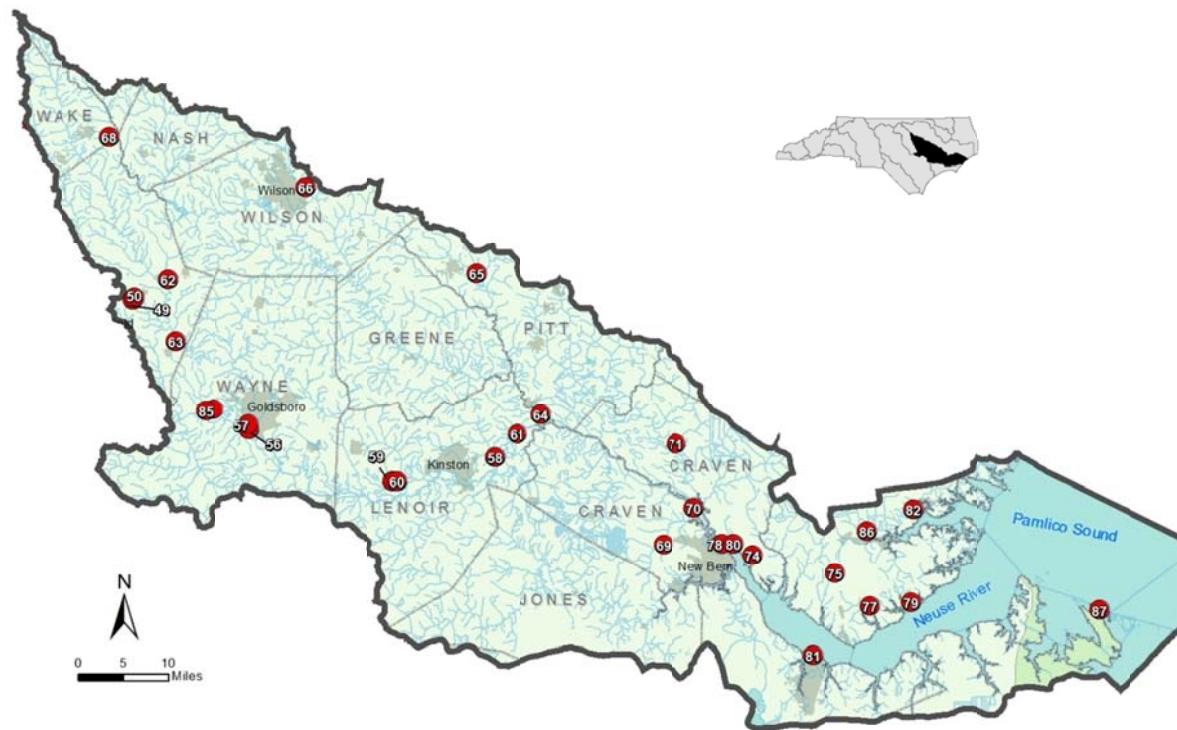
Figure 1. Neuse River basin (upper, subbasins 1-4) facilities required to conduct whole effluent toxicity testing



Key

1	Butner WWTP	15	Citgo Selma Term #1	29	Kinder Morgan SE - Selma #2	43	RDU Airport Auth #4
2	Creedmoor WTP	16	Citgo Selma Term #2	30	Kinder Morgan SE - Selma #3	44	RDU Airport Auth #7
3	Northside WWTP	17	Clayton WWTP	31	Kinder Morgan SE #1	45	RDU Airport Auth #16
4	Eaton Corp	18	Colonial Pipeline - RDU	32	Kinder Morgan SE #2	46	Smith Creek WWTP
5	Hillsborough WWTP	19	Colonial Pipeline-Selma	33	Magellan Selma Term.	47	Smithfield WTP
6	Orange Alamance WTP	20	Crown Central Petro	34	NCSU Lot #86	48	Square D-Phase I
7	SGWASA WTP	21	CWS Kings Grant	35	Dempsey WTP	49	TransMontaigne Term #2
8	W.P. Ballard and Co	22	CWS Willowbrook	36	Raleigh Conv.Center	50	TransMontaigne Term #3
9	Wildwood Green	23	Deer Chase S/D WWTP	37	E.M. Johnson WTP#1	51	Ward Trans. Co, Inc.
10	Alcatel Network Sys	24	Exxon Co. - Selma	38	E.M. Johnson WTP#2	52	Apex WRF
11	BP Bulk Storage	25	G.G. Hill WTP	39	Raleigh-Neuse WWTP	53	Fuquay-Varina WWTP
12	BP Selma Terminal	26	Johnston Co. WWTF	40	RDU Airport Auth#1	54	Motiva Enterprises LLC
13	Cary North WWTP	27	Johnston Co. WTP	41	RDU Airport Auth#2	55	Benson WWTP
14	Cary South WWTP	28	Kinder Morgan - Selma #2	42	RDU Airport Auth#3		

Figure 2. Neuse River basin (lower, subbasins 5-12) facilities required to conduct whole effluent toxicity testing



Key

56	Goldsboro WWTP #1	64	Contentnea WWTP	72	Havelock WTP	80	Phillips Plating Co.
57	Goldsboro WWTP #2	65	Farmville WWTP	73	Fairfield Harbor S/D	81	USMC Cherry Point
58	Kinston-Regional WRF	66	Wilson TCC	74	New Bern WWTP	82	Vandermere WTP
59	Neuse WTP #1	67	Wilson WWTP	75	Grantsboro WTP	83	CP&L-Lee
60	Neuse WTP #2	68	Zebulon WWTP	76	Havelock WWTP	84	CP&L-Lee
61	Unifi-Kinston LLC	69	Craven Co. Wood Energy	77	Kershaw WTP	85	CP&L-Lee
62	Kenly WWTP	70	Weyerhaeuser - New Bern	78	New Bern WTP	86	Millpond WTP
63	Princeton WWTP	71	Vanceboro WTP	79	Oriental WTP	87	NC DOT - Ferry Div. WTP

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

Subbasin/Facility	NPDES Permit No.	Receiving Stream	County
03-04-01			
Butner WWTP (SGWASA)	NC0026824/001	Knapp Of Reeds Cr.	Granville
Creedmoor WTP	NC0007625/001	Ledge Cr.	Granville
Durham-Northside WWTP	NC0023841/001	Ellerbe Cr.	Durham
Eaton Corp/001	NC0003379/001	UT North Flat R.	Person
Hillsborough WWTP	NC0026433/001	Eno R.	Orange
Orange Alamance WTP	NC0082759/001	Eno River	Orange
SGWASA WTP	NC0058416/001	UT to Knap of Reeds Cr.	Granville
W.P. Ballard and Company	NC0086720/001	UT Ellerbe Cr	Durham
Wildwood Green	NC0063614/001	UT Lower Barton Cr.	Wake
03-04-02			
Alcatel Network Systems Inc.	NC0086126/001	Crabtree Cr.	Wake
BP Bulk Storage Selma - 002	NC0088960/001	UT Mill Cr.	Johnston
BP Selma Terminal – 002	NC0036145/002	UT Mill Cr.	Johnston
Cary North WWTP	NC0048879/001	Crabtree Cr.	Wake
Cary South WWTP	NC0065102/001	Middle Cr.	Wake
Citgo Selma Terminal #001	NC0021954/001	UT Mill Cr.	Johnston
Citgo Selma Terminal #002	NC0021954/002	UT Mill Cr.	Johnston
Clayton WWTP	NC0025453/001	Neuse R.	Johnston
Colonial Pipeline- RDU/001	NC0081469/001	UT Crabtree Cr.	Wake
Colonial Pipeline-Selma	NC0031011/001	UT Mill Cr.	Johnston
Crown Central Petroleum	NC0027227/001	UT Mill Cr.	Johnston
CWS Kings Grant	NC0062219/001	UT Poplar Cr.	Wake
CWS Willowbrook	NC0064378/001	UT Beddingfield Cr.	Wake
Deer Chase S/D WWTP	NC0063746/001	Toms Cr.	Wake
Exxon Co.-Selma	NC0027006/001	UT Mill Cr.	Johnston
G.G. Hill WTP	NC0007528/001	Smith Cr.	Wake
Johnston Co. WWTF	NC0030716/001	Neuse R.	Johnston
Johnston Co. WTP	NC0084735/001	UT to Neuse R.	Johnston
Kinder Morgan-Selma #2	NC0088218/001	UT Mill Cr.	Johnston
Kinder Morgan SE- Selma #2	NC0049204/001	UT Mill Cr.	Johnston
Kinder Morgan SE –Selma #3	NC0076457/001	UT Mill Cr.	Johnston
Kinder Morgan SE	NC0032875/001	UT Mill Cr.	Johnston
Kinder Morgan SE	NC0032875/002	UT Mill Cr.	Johnston
Magellan Selma Terminal	NC0052311/001	UT Mill Cr.	Johnston
NCSU- Lot #86	NC0088129/001	UT Richland's Cr.	Wake
Dempsey Benton WTP	NC0088285/001	Lake Benson	Wake
Raleigh Convention Center	NC0088137/001	Rocky Br.	Wake
Raleigh- E.M. Johnson WTP	NC0082376/001	UT Neuse R.	Wake
Raleigh- E.M. Johnson WTP	NC0082376/002	UT Honeycutt Cr.	Wake
Raleigh-Neuse WWTP	NC0029033/001	Neuse R.	Wake
RDU Airport Authority-001	NC0084514/001	UT Brier Cr.	Wake
RDU Airport Authority-002	NC0084514/002	Brier Cr.	Wake
RDU Airport Authority-003	NC0084514/003	Brier Cr.	Wake
RDU Airport Authority-004	NC0084514/004	UT Sycamore Cr.	Wake
RDU Airport Authority-007	NC0084514/007	Brier Cr. Reservoir	Wake
RDU Airport Authority-016	NC0084514/016	Haley's Cr.	Wake
Smith Cr. WWTP	NC0030759/001	Neuse	Wake
Smithfield WTP	NC0083348/001	Buffalo Cr.	Johnston
Square D-Phase I	NC0081540/001	Marks Cr.	Wake
TransMontaigne Term-Selma	NC0003549/002	UT Mill Cr.	Johnston
TransMontaigne Term-Selma	NC0003549/003	UT Mill Cr.	Johnston
Ward Transformer Co, Inc.	NC0045608/001	UT Little Brier Cr.	Wake
03-04-03			
Apex WRF	NC0064050/001	UT Middle Cr.	Wake
Fuquay- Varina WWTP	NC0066516/001	Terrible Cr.	Wake
Motiva Enterprises LLC	NC0022217/001	Middle Cr.	Wake
03-04-04			
Benson WWTP	NC0020389/001	Hannah Cr.	Johnston

Table 1. Lower Neuse River basin facilities required to conduct whole effluent toxicity testing (continued)

Subbasin/Facility	NPDES Permit No.	Receiving Stream	County
03-04-05			
Goldsboro WWTP	NC0023949/002	Neuse R.	Wayne
Goldsboro WWTP	NC0023949/001	Neuse R.	Wayne
Kinston - Regional WRF	NC0024236/001	UT Neuse R.	Lenoir
Neuse WTP	NC0088111/001	Third Cr.	Lenoir
Neuse WTP	NC0088111/002	Third Cr.	Lenoir
Unifi-Kinston LLC	NC0003760/001	Neuse R.	Lenoir
03-04-06			
Kenly WWTP	NC0064891/001	Little R.	Johnston
Princeton WWTP	NC0026662/001	Little R.	Johnston
03-04-07			
Contentnea MSD WWTP	NC0032077/001	UT Contentnea Cr.	Pitt
Farmville WWTP	NC0029572/001	Little Contentnea Cr.	Pitt
Wilson Tech Comm College	NC0084581/001	UT Toisnot Swp	Wilson
Wilson WWTP	NC0023906/001	Contentnea Cr.	Wilson
Zebulon WWTP	NC0079316/001	Little Cr.	Wake
03-04-08			
Craven Co. Wood Energy	NC0075281/001	Bachelor Cr.	Craven
Weyerhaeuser-New Bern	NC0003191/001	Neuse R.	Craven
03-04-09			
Vanceboro WTP	NC0080071/001	UT Mauls Swamp	Craven
03-04-10			
Havelock WTP	NC0078131/001	McCotter Canal	Craven
Fairfield Harbor Subdivision	NC0033111/001	Neuse R.	Craven
First Craven San. Dist. WWTP	NC006032/001	UT Duck Cr.	Craven
Grantsboro WTP	NC0088323/001	UT Beard Cr.	Pamlico
Havelock WWTP	NC0021253/001	E. Prong Slocum Cr.	Craven
Kershaw WTP	NC0088331/001	UT Tarkiln Cr.	Pamlico
New Bern WWTP	NC0025348/001	Neuse R.	Craven
Oriental WTP	NC0088447/001	Whitaker Cr.	Pamlico
Phillips Plating Co.	NC0001881/001	Neuse R.	Craven
USMC Cherry Point	NC0003816/001	Neuse R.	Craven
Vandemere WTP	NC0088358/001	UT N. Smith Cr.	Pamlico
03-04-12			
CP&L Lee/001 Ash Pond	NC0003417/001	Neuse R.	Wayne
CP&L Lee/001 Ash Pond	NC0003417/002	Neuse R.	Wayne
CP&L Lee/001 Ash Pond	NC0003417/003	Neuse R.	Wayne
03-04-13			
Millpond WTP	NC0088340/001	UT N Prong Bay	Pamlico
003-01-14			
NC DOT - Ferry Div (RO) WTP	NC0077500/001	Cedar Island Bay	Carteret

Wildwood Green, NPDES NC0063614, had 3 consecutive quarters of failures to meet the WET compliance in 2008 and 2009. No known causative reason was given for the failures. The facility regained compliance in August 2009 and has had 6 successive quarters of WET compliance. NCSU Lot 86, NPDES # NC0088129, is a superfund site with ground water remediation. This facility is no longer discharging into surface waters.