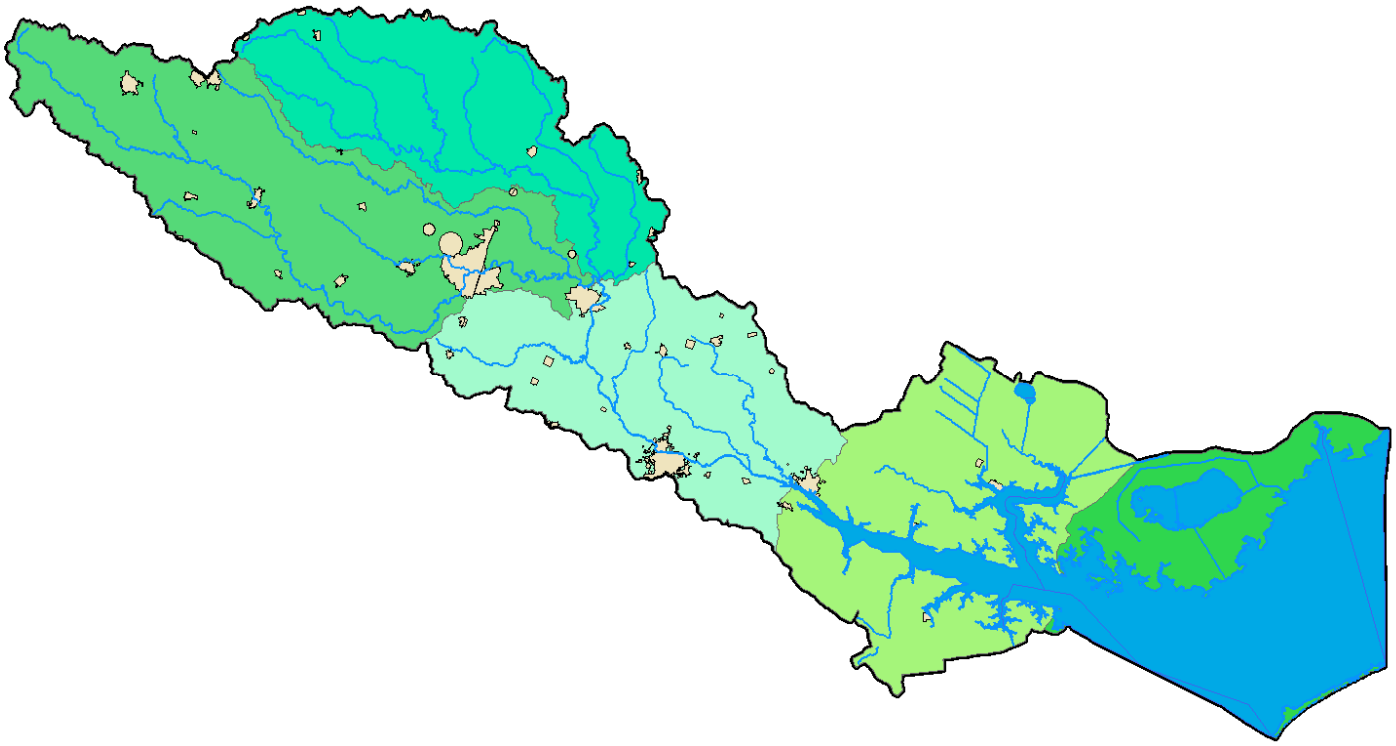
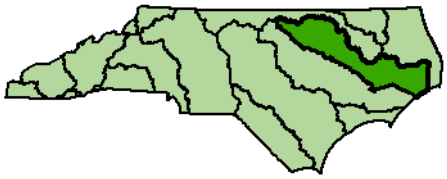


Tar-Pamlico River Basin
Ambient Monitoring Report

January 1, 2003 through December 31, 2007



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Evaluation Levels

In order to assist the reader in developing a rapid understanding of the summary statistics provided throughout this data review, concentrations of water quality variables may be compared to an Evaluation Level (EL). Evaluation levels may be a water quality standard, an action level, an ecological threshold, or simply an arbitrary threshold that facilitates a rapid data review. Evaluation levels are further examined for frequency to determine if they have been exceeded in more than 10 percent of the observed samples (except for the fecal coliform EL, which may be reviewed using either a 10% or 20% frequency, depending on the waters classification. This summary approach facilitates a rapid and straightforward presentation of the data but may not be appropriate for making specific use support decisions necessary for identification of impaired waters under the Clean Water Act's requirements for 303(d) listings. The reader is advised to review the states 303(d) listing methodology for this purpose. (see http://h2o.enr.state.nc.us/tmdl/General_303d.htm).

TABLES

FIGURES

APPENDIXES

EXECUTIVE SUMMARY

A general understanding of human activities and natural forces that affect pollution loads and their potential impacts on water quality can be obtained through routine sampling from fixed water quality monitoring stations. During this assessment period (January 1, 2003 through December 31, 2007) chemical and physical measurements were obtained by DWQ from 46 stations located throughout the Tar-Pamlico River Basin. The Tar-Pamlico Basin Association (TPBA) collected chemical and physical measurements from 37 stations. Three of these stations are monitored by both DWQ and the TPBA.

In order to evaluate acceptable water quality criteria at least 10 observations are desired. If at least 10 results were collected for a given site for a given parameter, the results are then compared to water quality evaluation levels. The water quality evaluation level may be an ecological evaluation level, a narrative or a numeric standard. If less than 10 results were collected, then no comparison to evaluation levels was made. When more than 10 percent of the results exceeded the evaluation level (10% criteria), a binomial statistical test was employed to determine how much statistical confidence there is that the results statistically exceed the 10% criteria. If at least 95% confidence was found that a 10% exceedance occurred, then that is termed a statistically significant exceedance (SSE). This method was applied for all parameters with an evaluation level, except for fecal coliform bacteria, which uses a 20% criteria in most waters as well as a geometric mean criteria. See the Parameters section for an explanation of fecal coliform methods. The results of the data analysis are displayed in tables, box plots, scatter plots, and maps. For complete summaries on each station, reference the AMS and TPBA Station Summary Sheets located in Appendix A.

Drought played a significant role during the assessment period. Two droughts, one from May to December 2005 and a second, more severe drought from April 2007 to beyond the end of the assessment period significantly impacted several parameters, most notably dissolved oxygen. Dissolved Oxygen concentrations tend to drop during periods of low flow. This helps explain why a large number of TPBA sites appeared to have SSEs for dissolved oxygen. The TPBA began sampling in March 2007, so that a majority of the sampling history at these sites is during the extended drought. Because the exceedances appear to be solely caused by drought, we do not consider these exceedances to warrant consideration for corrective action.

This review of water quality exceedances was performed using data that were collected between January 1, 2003 and December 31, 2007. If the dissolved oxygen concentrations from TPBA stations impacted by drought are excluded, then a total of 16 sites were found with SSEs. Only two of these sites were found to have more than one SSE, Ballahack Canal Near Conetoe and Pungo River near Ponzer. Excluding the drought-impacted dissolved oxygen TPBA sites, SSEs were found for dissolved oxygen (two sites), pH (six sites), chlorophyll a (eight sites), turbidity (one site), and fecal coliform screening (one site). Eleven sites with 10% exceedances did not rise to the level of SSEs, and 53 sites did not have any 10% exceedances.

Table 1 gives a summary of the problem areas using these criteria in the basin. While reading the table please note the following: The majority of the parameters listed are compared directly to their standards. There is one exception, however. The fecal coliform standard requires that 5 samples be taken in the span of 30 days, which was not done for this data. Therefore any fecal coliform reviews should be taken as a screening recommendation to collect the data at a frequency (5 in 30) required by the standard. A visual summary of the evaluation level data is included as **Figure 1**.

Table 1. Violations and Areas of Concern in the Tar-Pamlico River Basin (1 of 2)

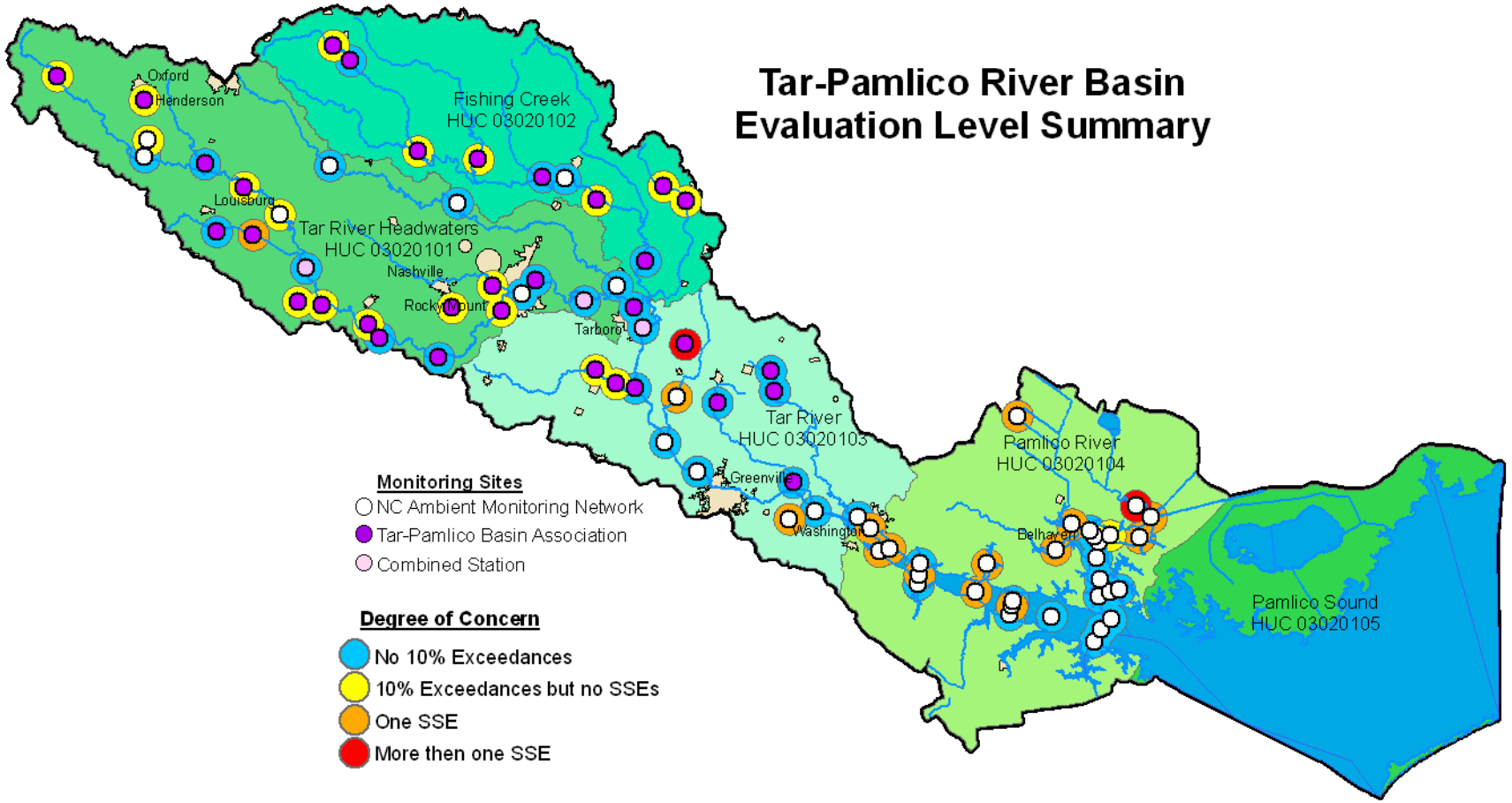
Station	Agency	Location	Stream Class	Parameter	%Exceed	%Conf
HUC 03020101: Tar River Headwaters						
O0057000	TPBA	Tar Riv At Us 158 Nr Berea	WS-IV NSW	Dissolved Oxygen (<4 mg/L)	30.0%	98.7%
O0310000	TPBA	Fishing Crk At Sr 1649 New Commerce Dr At Oxford	C NSW	Dissolved Oxygen (<4 mg/L)	21.4%	95.6%
O0600000	NCAMBNT	Fishing Crk At Sr 1643 Nr Clay	C NSW	Fecal coliform (>400 col/100 mL)	21.8%	70.2%
O1025000	TPBA	Tar Riv At Sr 1003 Sims Bridge Rd Nr Louisburg	WS-IV NSW	Fecal coliform (>400 col/100 mL)	30.0%	87.9%
O1030000	TPBA	Tabbs Crk At Sr 1100 Egypt Mountain Rd Nr Kittrell	C NSW	Dissolved Oxygen (<4 mg/L)	13.3%	81.6%
				Fecal coliform (>400 col/100 mL)	30.0%	87.9%
O1920000	TPBA	Cedar Crk At Sr 1109 Timberlake Rd Nr Louisburg	C NSW	Fecal coliform (>400 col/100 mL)	30.0%	87.9%
				Fecal coliform (Geomean > 200 col/100 mL)	237	
				Turbidity (>50 NTU)	20.0%	93.0%
O2015000	TPBA	Crooked Crk At Sr 1719 Bunn Elementary School Rd Nr Bunn	C NSW	Dissolved Oxygen (<4 mg/L)	60.0%	>99.9%
O2020000	TPBA	Crooked Crk At Nc 98 Nr Bunn	C NSW	Dissolved Oxygen (<4 mg/L)	53.3%	>99.9%
O2101000	TPBA	Tar Riv At Sr 1145 Old Spring Hope Rd Nr Spring Hope	WS-V NSW	Dissolved Oxygen (<4 mg/L)	13.3%	81.6%
O2320000	TPBA	Sapony Crk At Sr 1704 Batchelor Dr Nr Nashville	WS-IV NSW	Dissolved Oxygen (<4 mg/L)	66.7%	>99.9%
O2360000	TPBA	Tar Riv At Us 301 Byp At Rocky Mount	WS-IV NSW	Dissolved Oxygen (<4 mg/L)	40.0%	>99.9%
O3140000	TPBA	Stony Crk At Winstead Ave Nr Little Easonburg	C NSW	Dissolved Oxygen (<4 mg/L)	26.7%	98.7%
				Fecal coliform (>400 col/100 mL)	30.0%	87.9%
HUC 03020102: Fishing Creek						
O4300000	TPBA	Fishing Crk At Sr 1001 Dr King Blvd Nr Warrenton	C NSW	Dissolved Oxygen (<4 mg/L)	26.7%	98.7%
O4480000	TPBA	Fishing Crk At Nc 561 Nr Wood	WS-V NSW	Dissolved Oxygen (<4 mg/L)	20.0%	94.4%
O4630000	TPBA	Little Fishing Crk At Nc 481 Nr White Oak	C NSW	Dissolved Oxygen (<4 mg/L)	20.0%	94.4%
O4690000	TPBA	Fishing Crk At Sr 1109 Etheridge Farm Rd Nr Enfield	C NSW	Dissolved Oxygen (<4 mg/L)	13.3%	81.6%
O4995000	TPBA	Deep Crk At Sr 1104 Nr Scotland Neck	C NSW	Dissolved Oxygen (<4 mg/L)	80.0%	>99.9%
O5100000	TPBA	Deep Crk At Us 258 Nr Scotland Neck	C NSW	Dissolved Oxygen (<4 mg/L)	66.7%	>99.9%
HUC 03020103: Tar River						
O5600000	TPBA	Town Crk At Nc 111 Sr 1202 Nr Wiggins Crossroads	C NSW	Dissolved Oxygen (<4 mg/L)	53.3%	>99.9%
				pH (<6 SU)	13.3%	81.6%
O5990000	TPBA	Town Crk At Us 258 Nr Cobbs Crossroads	C NSW	Dissolved Oxygen (<4 mg/L)	53.3%	>99.9%
O6201000	TPBA	Ballahack Canal At Sr 1526 Nr Conetoe	C NSW	Dissolved Oxygen (<4 mg/L)	73.3%	>99.9%
				Fecal coliform (Geomean > 200 col/100 mL)	249	
				Fecal coliform (>400 col/100 mL)	50.0%	99.4%
				pH (<6 SU)	13.3%	81.6%
				Turbidity (>50 NTU)	30.0%	98.7%
O6205000	NCAMBNT	Conetoe Crk At Sr 1409 Nr Bethel	C NSW	pH (<6 SU)	32.2%	>99.9%
O6450000	NCAMBNT	Chicod Crk At Sr 1760 Nr Simpson	C NSW	Dissolved Oxygen (<4 mg/L)	41.4%	>99.9%

Table 1 (Continued). Violations and Areas of Concern in the Tar-Pamlico River Basin (2 of 2)

Station	Agency	Location	Stream Class	Parameter	%Exceed	%Conf
HUC 03020104: Pamlico River						
O7650000	NCAMBNT	Pamlico Riv At Us 17 At Washington	SC NSW	pH (<6.8 SU)	16.1%	98.7%
O7680000	NCAMBNT	Pamlico Riv At Cm 16 Nr Whichard Beach	SB NSW	Chlorophyll a (>40 ug/L)	16.5%	98.8%
				pH (<6.8 SU)	13.6%	92.0%
O7710000	NCAMBNT	Chocowinity Bay Above Silas Crk Nr Whichard Beach	SC NSW	Chlorophyll a (>40 ug/L)	30.6%	>99.9%
O787000C	NCAMBNT	Pamlico Riv At Mouth Of Broad Crk Nr Bunyon Mid Channel	SB NSW	Chlorophyll a (>40 ug/L)	21.1%	>99.9%
				pH (<6.8 SU)	10.1%	58.8%
O8495000	NCAMBNT	Bath Crk At Nc 92 Nr Bath	SB NSW	Chlorophyll a (>40 ug/L)	21.3%	>99.9%
				pH (>8.5 SU)	10.3%	61.2%
O8498000	NCAMBNT	Pamlico Riv At Cm 5 Nr Core Point	SB NSW	Chlorophyll a (>40 ug/L)	22.9%	>99.9%
O865000C	NCAMBNT	Pamlico Riv At Cm 4 Nr Gum Point Mid Channel	SB NSW	Chlorophyll a (>40 ug/L)	20.2%	>99.9%
O9750500	NCAMBNT	Pungo Crk At Nc 92 At Sidney Crossroads	SC NSW	Chlorophyll a (>40 ug/L)	38.2%	>99.9%
O9751000	NCAMBNT	Pantego Crk At Nc 92 At Belhaven	SC NSW	Chlorophyll a (>40 ug/L)	18.5%	98.3%
				pH (<6.8 SU)	10.2%	62.3%
O9755000	NCAMBNT	Van Swamp At Nc 32 Nr Hoke	C Sw NSW	pH (<4.3 SU)	75.0%	>99.9%
O9758500	NCAMBNT	Pungo Riv At Us 264 Nr Ponzer	SB NSW	Dissolved Oxygen (<4 mg/L)	23.6%	99.9%
				pH (<6.8 SU)	62.7%	>99.9%
O9760000	NCAMBNT	Pungo Riv At Cm 24 Nr Icw	SB NSW	pH (<6.8 SU)	30.0%	>99.9%
O9761000	NCAMBNT	Pungo Riv At Cm 19 Nr Scranton Crk	SB NSW	pH (<6.8 SU)	23.3%	99.2%
O9762000	NCAMBNT	Pungo Riv At Cm 14 Nr Haystack Point	SB NSW	pH (<6.8 SU)	13.3%	82.5%

Figure 1. Evaluation Level Summary Map

Illustrated below is a summary of evaluation levels for each station. The dissolved oxygen TPBA sites are shown as yellow instead of orange because the exceedances appear to be solely caused by drought.



INTRODUCTION

The DWQ's Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine stations strategically located for the collection of physical and chemical water quality data. The stations are located at convenient access points (e.g. bridge crossings) that are sampled on a monthly basis. These locations were chosen to characterize the effects of point source dischargers and nonpoint sources such as agriculture, animal operations, and urbanization within watersheds.

The data are used to identify long term trends within watersheds, to develop Total Maximum Daily Loads (TMDLs) and to compare measured values with water quality standards to identify possible areas of impairment. Parametric coverage is determined by freshwater or saltwater waterbody classification and corresponding water quality standards. Under this arrangement, core parameters are based on Class C waters with additional parameters added when justified (**Table 2**).

Within this document, an analysis of how monitoring results compare with water quality standards and evaluation levels is presented. A conceptual overview of water quality standards is provided at: http://www.epa.gov/waterscience/standards. Specific information on North Carolina water quality standards is provided at: http://h2o.enr.state.nc.us/csu/swstdsfaq.html. A summary of selected water quality standards are listed in **Table 3**.

Water quality data are evaluated in five year periods. Some stations have little or no data for several parameters over the period. However, for the purpose of standardization, data summaries for each station are included in this report. DWQ monitored water quality and collected samples at 46 stations throughout the basin. The locations of the sampling sites are illustrated in **Figure 2**, and listed in **Table 4**.

In January 2007 the DWQ began collection of samples from randomly determined sites. A description of the Random Sampling Program can be found here: http://h2o.enr.state.nc.us/esb/rams.html. There are three random sites located in the Tar-Pamlico River Basin. At this time data analysis for these sites is incomplete.

The Tar-Pamlico River Basin Association

Also within the Tar-Pamlico River basin are monitoring stations maintained by the Tar-Pamlico River Basin Association (TPBA). The TPBA is a coalition of municipalities and industries that release treated wastewater into the Tar-Pamlico River basin. TPBA began operation in 2007. Like other discharger coalitions, TPBA has taken an active role in monitoring water quality. The coalition program provides an alternative to individual in-stream National Pollutant Discharge Elimination System (NPDES) permit monitoring requirements. The members of TPBA collect water samples from 37 monitoring stations throughout the basin under agreement with DWQ. Three of the stations monitored by TPBA are also monitored by DWQ. The locations of the coalition sampling sites are also illustrated in **Figure 2**, and listed in **Table 4**. The coalition program does not effect effluent sampling requirements.

Table 2. Parametric coverage for the Ambient Monitoring System.[1]

Parameter
Dissolved oxygen (s)
pH (s)
Specific conductance
Temperature (s)
Total phosphorus[2]
Ammonia as N[2]
Total Kjeldahl as N[2]
Nitrate+nitrite as N[2] (s)
Total suspended solids
Turbidity (s)
Fecal coliform bacteria (s)
Chlorophyll *a*[2] (s)

[1]An 's' indicates the parameter has a standard.
[2]DWQ performs Chlorophyll *a* and nutrient sampling only in areas of concern, such as some NSW waters, estuaries, and areas with known enrichment issues.

Table 3. Selected water quality standards[1]

	Standards for All Freshwater			Standards to Support Additional Uses		
Parameter	Aquatic Life	Human Health	Water Supply Classifications	Trout Water	HQW	Swamp Waters
Chloride (mg/l)	230		250			
Chlorophyll *a* (ug/L)	40[2]			15[2]		
Coliform, total (MFTCC/100 ml)[3]			50[2] (WS-I only)			
Coliform, fecal (MFFCC/100 ml)[4]		200[2]				
Dissolved oxygen (mg/L)	4.0[5,6]			6.0		[2, 6]
Hardness, total (mg/L)			100			
Nitrate nitrogen (mg/L)			10			
pH (units)	6.0 - 9.0[2, 6]					[2, 6]
Solids, total suspended (mg/L)					10 Trout, 20 other[7]	
Turbidity (NTU)	50, 25[2]			10[2]		

[1]Standards apply to all classifications. For the protection of water supply and supplemental classifications, standards listed under Standards to Support Additional Uses should be used unless standards for aquatic life or human health are listed and are more stringent. Standards are the same for all water supply classifications (Administrative Code 15A NCAC 2B 0200, eff. August 1, 2004).
[2]Refer to 2B.0211 for narrative description of limits.
[3]Membrane filter total coliform count per 100 ml of sample.
[4]Membrane filter fecal coliform count per 100 ml of sample.
[5]An instantaneous reading may be as low as 4.0 mg/L, but the daily average must be 5.0 mg/L or more.
[6]Designated swamp waters may have a dissolved oxygen less than 5.0 mg/L and a pH as low as 4.3, if due to natural conditions.
[7]For effluent limits only, refer to 2B.0224(1)(b)(ii).

	Standards for All Saltwater			Standards To Support Additional Uses	
Parameter (µg/L, unless noted)	Aquatic Life	Human Health[1]	Class SA[2]	HQW	Swamp Waters
Chlorophyll *a* (corrected)	40[3]				
Coliform, fecal (MFFCC/100ml)[4]		200[3]	14[3]		
Dissolved oxygen (mg/L)	5.0[8]			6.0	[3, 5]
PH (units)	6.8 - 8.5[5]				[3, 5]
Solids, total suspended (mg/L)				10 PNA[6], 20 other[7]	
Turbidity (NTU)	25[3]				

[1]Standards are based on consumption of fish only unless dermal contact studies are available, see 2B.0208 for equation.
[2]Class SA = shellfishing waters, see 2B.0101 for description.
[3]See 2B.0220 for narrative description of limits.
[4]MFFCC/100ml means membrane filter fecal coliform count per 100 ml of sample.
[5]Designated swamp waters may have a dissolved oxygen less than 5.0 mg/L and a pH as low as 4.3 s.u., if due to natural conditions.
[6]PNA = Primary Nursery Areas.
[7]For effluent limits only, see 2B.0224.
[8]Swamp waters, poorly flushed tidally influenced streams, or embayments, or estuarine bottom waters may have lower values if caused by natural conditions.

Figure 2. DWQ's Ambient Monitoring System and the TPBA monitoring system in the Tar-Pamlico River Basin.

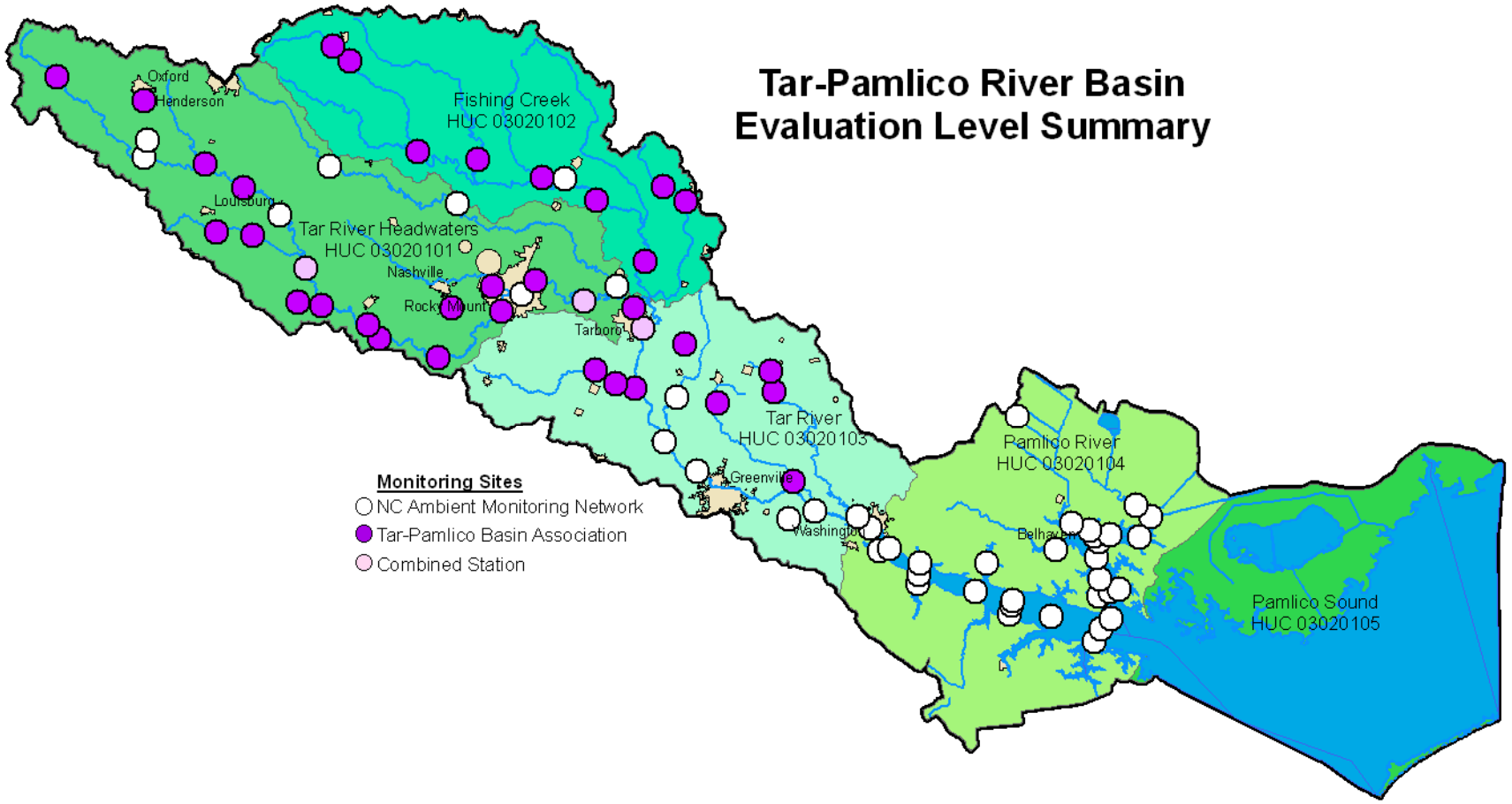


Table 4. Monitoring stations in the Tar-Pamlico River Basin, 2003 - 2007. (1 of 2)

Station ID	Agency	Location	Stream Class	Latitude	Longitude
HUC 03020101 : Tar River Headwaters					
O0057000	TPBA	Tar Riv At Us 158 Nr Berea	WS-IV NSW	36.33412	-78.76803
O0100000	NCAMBNT	Tar Riv At Nc 96 Nr Tar River	WS-V NSW	36.19472	-78.58292
O0310000	TPBA	Fishing Crk At Sr 1649 New Commerce Dr At Oxford	C NSW	36.2921	-78.58294
O0600000	NCAMBNT	Fishing Crk At Sr 1643 Nr Clay	C NSW	36.22317	-78.57568
O1025000	TPBA	Tar Riv At Sr 1003 Sims Bridge Rd Nr Louisburg	WS-IV NSW	36.14222	-78.37218
O1030000	TPBA	Tabbs Crk At Sr 1100 Egypt Mountain Rd Nr Kittrell	C NSW	36.18229	-78.45562
O1100000	NCAMBNT	Tar Riv At Us 401 At Louisburg	WS-V NSW	36.09438	-78.29766
O1600000	TPBA	Cedar Crk At Sr 1116 Cedar Creek Rd Nr Franklinton	C NSW	36.06615	-78.4313
O1920000	TPBA	Cedar Crk At Sr 1109 Timberlake Rd Nr Louisburg	C NSW	36.06024	-78.35373
O2000000	Both	Tar Riv At Sr 1001 Nr Bunn	WS-V NSW	36.00228	-78.24334
O2015000	TPBA	Crooked Crk At Sr 1719 Bunn Elementary School Rd Nr Bunn	C NSW	35.94504	-78.26054
O2020000	TPBA	Crooked Crk At Nc 98 Nr Bunn	C NSW	35.93863	-78.20892
O2101000	TPBA	Tar Riv At Sr 1145 Old Spring Hope Rd Nr Spring Hope	WS-V NSW	35.90506	-78.11319
O2102000	TPBA	Tar Riv At Nc 581 Nr Stanhope	WS-V NSW	35.88205	-78.08932
O2140000	TPBA	Tar Riv At Sr 1981 Tar River Church Rd Nr Cliftonville	WS-IV NSW CA	35.84663	-77.96394
O2320000	TPBA	Sapony Crk At Sr 1704 Batchelor Dr Nr Nashville	WS-IV NSW	35.93201	-77.93478
O2360000	TPBA	Tar Riv At Us 301 Byp At Rocky Mount	WS-IV NSW	35.92572	-77.83067
O3140000	TPBA	Stony Crk At Winstead Ave Nr Little Easonburg	C NSW	35.9688	-77.84967
O3180000	NCAMBNT	Tar Riv At Nc 97 At Rocky Mount	C NSW	35.95438	-77.7874
O3189000	TPBA	Tar Riv At Sr 1250 Springfield Rd At Rocky Mount	C NSW	35.97789	-77.75769
O3600000	Both	Tar Riv At Sr 1252 Nr Hartsease	WS-IV NSW	35.9409	-77.65511
O3830000	NCAMBNT	Sandy Crk At Sr 1432 Nr Gupton	B NSW +	36.17785	-78.19089
O3870000	NCAMBNT	Swift Crk At Sr 1310 At Hilliardston	C ORW NSW	36.11175	-77.92122
O4000000	NCAMBNT	Swift Crk At Sr 1253 Nr Leggett	WS-IV NSW	35.96679	-77.58535
O4100000	TPBA	Tar Riv At Nc 33 Nr Tarboro	WS-IV NSW	35.92844	-77.54984
HUC 03020102 : Fishing Creek					
O4300000	TPBA	Fishing Crk At Sr 1001 Dr King Blvd Nr Warrenton	C NSW	36.38402	-78.18135
O4400500	TPBA	Fishing Crk At Sr 1600 Baltimore Rd Nr Warrenton	C NSW	36.35735	-78.14494
O4480000	TPBA	Fishing Crk At Nc 561 Nr Wood	WS-V NSW	36.20105	-78.00401
O4630000	TPBA	Little Fishing Crk At Nc 481 Nr White Oak	C NSW	36.1862	-77.87601
O4670000	TPBA	Fishing Crk At Sr 1222 Bellamy Mill Rd Nr Enfield	WS-IV NSW	36.1549	-77.74036
O4680000	NCAMBNT	Fishing Crk At Us 301 Nr Enfield	C NSW	36.15094	-77.69267
O4690000	TPBA	Fishing Crk At Sr 1109 Etheridge Farm Rd Nr Enfield	C NSW	36.11342	-77.62704
O4899000	TPBA	Fishing Crk At Nc 97 Nr Lawrence	WS-IV NSW	36.00828	-77.52518
O4995000	TPBA	Deep Crk At Sr 1104 Nr Scotland Neck	C NSW	36.13551	-77.48517
O5100000	TPBA	Deep Crk At Us 258 Nr Scotland Neck	C NSW	36.10964	-77.43827
HUC 03020103 : Tar River					
O5250000	Both	Tar Riv At Nc 33 And Us 64 Bus At Tarboro	C NSW	35.89352	-77.53233
O5600000	TPBA	Town Crk At Nc 111 Sr 1202 Nr Wiggins Crossroads	C NSW	35.82238	-77.6339
O5990000	TPBA	Town Crk At Us 258 Nr Cobbs Crossroads	C NSW	35.79828	-77.59144
O6000000	TPBA	Tar Riv At Nc 42 At Old Sparta	C NSW	35.7903	-77.55067

Table 4 (Continued) Monitoring stations in the Tar-Pamlico River Basin, 2003 - 2007. (2 of 2)

Station ID	Agency	Location	Stream Class	Latitude	Longitude
HUC 03020103 : Tar River					
O6200000	NCAMBNT	Tar Riv At Nc 222 Nr Falkland	WS-IV NSW	35.69624	-77.48949
O6201000	TPBA	Ballahack Canal At Sr 1526 Nr Conetoe	C NSW	35.86447	-77.44383
O6205000	NCAMBNT	Conetoe Crk At Sr 1409 Nr Bethel	C NSW	35.77427	-77.46384
O6240000	TPBA	Tar Riv At Us 264 Byp Nr Greenville	WS-IV NSW	35.64598	-77.42212
O6450000	NCAMBNT	Chicod Crk At Sr 1760 Nr Simpson	C NSW	35.56149	-77.23047
O6500000	NCAMBNT	Tar Riv At Sr 1565 Nr Grimesland	B NSW	35.57404	-77.17542
O6700000	TPBA	Grindle Crk At Sr 1427 Nr Bethel	C NSW	35.76324	-77.37805
O6798000	TPBA	Grindle Crk At Us 264 At Pactolus	C NSW	35.62426	-77.22118
O7000000	TPBA	Flat Swamp At Sr 1159 Third St At Robersonville	C Sw NSW	35.81602	-77.26421
O7100000	TPBA	Flat Swamp At Sr 1157 Nr Robersonville	C Sw NSW	35.78183	-77.25683
O7300000	NCAMBNT	Tranters Crk At Sr 1403 Nr Washington	C Sw NSW	35.56297	-77.0864
HUC 03020104 : Pamlico River					
O7650000	NCAMBNT	Pamlico Riv At Us 17 At Washington	SC NSW	35.54321	-77.06152
O7680000	NCAMBNT	Pamlico Riv At Cm 16 Nr Whichard Beach	SB NSW	35.50791	-77.02034
O7710000	NCAMBNT	Chocowinity Bay Above Silas Crk Nr Whichard Beach	SC NSW	35.5031	-77.04231
O787000C	NCAMBNT	Pamlico Riv At Mouth Of Broad Crk Nr Bunyon Mid Channel	SB NSW	35.46183	-76.95956
O787000N	NCAMBNT	Pamlico Riv At Mouth Of Broad Crk Nr Bunyon N Shore	SB NSW	35.48094	-76.95642
O787000S	NCAMBNT	Pamlico Riv At Mouth Of Broad Crk Nr Bunyon S Shore	SB NSW	35.44533	-76.96217
O8495000	NCAMBNT	Bath Crk At Nc 92 Nr Bath	SB NSW	35.47745	-76.81692
O8498000	NCAMBNT	Pamlico Riv At Cm 5 Nr Core Point	SB NSW	35.43048	-76.84144
O865000C	NCAMBNT	Pamlico Riv At Cm 4 Nr Gum Point Mid Channel	SB NSW	35.40471	-76.76707
O865000N	NCAMBNT	Pamlico Riv At Cm 4 Nr Gum Point N Shore	SB NSW	35.41285	-76.76343
O865000S	NCAMBNT	Pamlico Riv At Cm 4 Nr Gum Point S Shore	SB NSW	35.38992	-76.77234
O9059000	NCAMBNT	Pamlico Riv At Hickory Pt Nr South Crk	SA HQW NSW	35.38542	-76.68372
O9750500	NCAMBNT	Pungo Crk At Nc 92 At Sidney Crossroads	SC NSW	35.49938	-76.67239
O9751000	NCAMBNT	Pantego Crk At Nc 92 At Belhaven	SC NSW	35.54248	-76.6363
O9755000	NCAMBNT	Van Swamp At Nc 32 Nr Hoke	C Sw NSW	35.73038	-76.74653
O9758500	NCAMBNT	Pungo Riv At Us 264 Nr Ponzer	SB NSW	35.57135	-76.50152
O9760000	NCAMBNT	Pungo Riv At Cm 24 Nr Icw	SB NSW	35.55093	-76.46954
O9761000	NCAMBNT	Pungo Riv At Cm 19 Nr Scranton Crk	SB NSW	35.51711	-76.49538
O9762000	NCAMBNT	Pungo Riv At Cm 14 Nr Haystack Point	SB NSW	35.52159	-76.55722
O976300C	NCAMBNT	Pungo Riv At Cm 1Bc Between Durants Point And Pantego Crk	SB NSW	35.52	-76.59
O976300E	NCAMBNT	Pungo Riv Off Durants Point	SB NSW	35.51	-76.58
O976300W	NCAMBNT	Pungo Riv Nr Cm 6 At Mouth Of Pantego Crk	SB NSW	35.53075	-76.59832
O9764000	NCAMBNT	Pungo Riv At Cm 7 Nr Woodstock Point	SB NSW	35.48363	-76.58672
O9765000	NCAMBNT	Pungo Riv At Cm 4 Nr Sandy Point	SA HQW NSW	35.44625	-76.58116
O976600C	NCAMBNT	Pungo Riv Between Fortescue Crk And Wright Crk Mid Channel	SA HQW NSW	35.42402	-76.56078
O976600E	NCAMBNT	Pungo Riv At Mouth Of Fortescue Crk	SA HQW NSW	35.42906	-76.53981
O976600W	NCAMBNT	Pungo Riv At Marker 2Wc At Mouth Of Wright Crk	SA HQW NSW	35.41738	-76.58401
O982500C	NCAMBNT	Pamlico Riv Between Mouths Of Pungo Riv And Goose Crk Mid Channel	SA HQW NSW	35.36185	-76.58059
O982500N	NCAMBNT	Pamlico Riv Between Mouths Of Pungo Riv And Goose Crk N Shore	SA HQW NSW	35.37737	-76.5596
O982500S	NCAMBNT	Pamlico Riv Between Mouths Of Pungo Riv And Goose Crk S Shore	SA HQW NSW	35.34017	-76.59578
HUC 03020105 : Pamlico Sound					
No Active Stations					

ASSESSMENT AND INTERPRETATION METHODS

Monitoring and sampling results considered in this report represent samples collected or measurements taken at less than one-meter depth.

Percentile statistics were calculated for most of the data using JMP statistical software (version 5.01; SAS Institute, Cary, NC). Values less than the minimum reporting level (non-detects) were evaluated as equal to the reporting level. Box and whisker plots (constructed using SigmaPlot version 9) and maps are presented for most water quality parameters collected at each monitoring station. Significant trends in water quality parameters (constructed using Microsoft Excel) are illustrated as scatterplots. Significant trends are found by assessing the probability that the linear model explains the data no better then chance. If that chance is 5% or less (an observed significance probability of 0.05 or less) then that is considered evidence of a regression effect in this document. The strength of the regression effect is given as an r^2 value, the portion of the data that is explained by the linear model. There are many other types of modeling (non-linear) that can be used to explore trends, but they were not used in this document.

Assessment Considerations

Chlorophyll a

During this assessment period the DWQ Laboratory Section noted that chlorophyll a samples collected between 4/11/05 and 8/23/05 were incorrectly prepared for analysis, to the extent that the accuracy of the results is unknown. Therefore, the chlorophyll a results for this period were omitted from the dataset.

Total Metals

The North Carolina Division of Water Quality is currently revising water quality standards for metals. Review of historical total metals data and biological data has shown that no correlation exists between exceedance of total metals ambient standards and biological impairment. Therefore, as of May 2007 DWQ has suspended collection assessment of total metals at AMS stations. DWQ will resume assessment of ambient metals when new standards have been implemented. Most discharger coalitions have also ceased collecting total metals, and will resume monitoring for metals when new standards are in place. At this time the TPBA is collecting total metals samples.

Providing Confidence in the Exceedance of Water Quality Standards

Historically, NC DWQ has used guidance provided by the US EPA for determining when the number of results that exceed a water quality standard indicate potential water quality issues. The US EPA has suggested that management actions be implemented when 10 percent of the results exceeded a water quality standard. This interpretation is the same whether 1 out of 10, or 5 out of 50, or 25 out of 250 results exceed a standard. Evaluating exceedances in this manner is termed the ñraw-scoreò approach. Although this ñ10 percent exceedance criterionò defines a point where potential water quality issues may be present, it does not consider uncertainty. Some results are subject to chance or other factors such as calibration errors or sample mishandling. Uncertainty levels change with sample size. The smaller the sample size, the greater the uncertainty.

This document uses a nonparametric procedure (Lin *et al.* 2000) to identify when a sufficient number of exceedances have occurred that indicate a true exceedance probability of 10 percent. Calculating the minimum number of exceedances needed for a particular sample size was done using the BINOMDIST function in Microsoft Excel®. This statistical function suggests that at least three exceedances need to be observed in a sample of 10 in order to be [about] 95 percent confident that the results statistically exceed the water quality standard more than 10% of the time. For example, there is less statistical confidence associated with a 1 exceedance out of 10 (74 percent) than when there are 3 exceedances out of 10 (99 percent confidence) (Table 5).

Table 5. Exceedance Confidence

Number of Samples	Number of Exceedances																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
10	74%	93%	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**							
12	66%	89%	**97%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**					
14	58%	84%	**96%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**			
16	51%	79%	93%	**98%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	
18	45%	73%	90%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
20	39%	68%	87%	**96%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
22	34%	62%	83%	94%	**98%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
24	29%	56%	79%	91%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
26	25%	51%	74%	89%	**96%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
28	22%	46%	69%	86%	94%	**98%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
30	18%	41%	65%	82%	93%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
32	16%	37%	60%	79%	91%	**96%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
34	13%	33%	55%	75%	88%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
36	11%	29%	51%	71%	85%	94%	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
38	10%	25%	46%	67%	83%	92%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
40	8%	22%	42%	63%	79%	90%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
42	7%	20%	38%	59%	76%	88%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
44	6%	17%	35%	55%	73%	85%	93%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
46	5%	15%	31%	51%	69%	83%	92%	**96%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
48	4%	13%	28%	47%	65%	80%	90%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
50	3%	11%	25%	43%	62%	77%	88%	94%	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
52	3%	10%	22%	40%	58%	74%	86%	93%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
54	2%	8%	20%	36%	54%	71%	83%	91%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
56	2%	7%	18%	33%	51%	67%	81%	90%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
58	2%	6%	16%	30%	47%	64%	78%	88%	94%	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
60	1%	5%	14%	27%	44%	61%	75%	86%	93%	**97%**	**99%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**
62	1%	5%	12%	24%	40%	57%	72%	84%	91%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**
64	1%	4%	11%	22%	37%	54%	69%	81%	90%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**
66	1%	3%	9%	20%	34%	51%	66%	79%	88%	94%	**97%**	**99%**	**99%**	**100%**	**100%**	**100%**	**100%**
68	1%	3%	8%	18%	31%	47%	63%	76%	86%	93%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**
70	1%	2%	7%	16%	29%	44%	60%	74%	84%	91%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**	**100%**
72	0%	2%	6%	14%	26%	41%	57%	71%	82%	90%	**95%**	**97%**	**99%**	**100%**	**100%**	**100%**	**100%**
74	0%	2%	5%	13%	24%	38%	54%	68%	80%	88%	94%	**97%**	**99%**	**99%**	**100%**	**100%**	**100%**
76	0%	1%	5%	11%	22%	35%	51%	65%	77%	86%	93%	**96%**	**98%**	**99%**	**100%**	**100%**	**100%**
78	0%	1%	4%	10%	20%	33%	48%	62%	75%	85%	91%	**95%**	**98%**	**99%**	**100%**	**100%**	**100%**
80	0%	1%	4%	9%	18%	30%	45%	59%	72%	83%	90%	**95%**	**97%**	**99%**	**99%**	**100%**	**100%**

Note: Bold entries indicate that there is at least 95% confidence that at least 10% of the possible samples exceed the evaluation level.

Methods Used to Summarize Results

Methods used to summarize the results in this report encompass both tabular and graphical formats. Individual summary sheets for each station provide details on station location, stream classification, along with specifics on what parameters were measured, the number of samples taken (i.e. sample size), the number of results below reporting levels, the number of results exceeding a water quality standard or evaluation level, statistical confidence that 10% of results exceeded the evaluation level, and a general overview of the distribution of the results using percentiles. These station summary sheets provide the greatest details on a station-by-station basis. They are included as **Appendix A** to this report.

Box and Whisker Plots

The primary method of analyzing data in this report is through the use of box and whisker plots. **Figure 3** is an annotated example of a box and whisker plot that illustrates the distribution of the results for a particular parameter at a single site. This box plot contains both the median and mean values. Differences between the median and mean can illustrate the distribution of the results. For example, if the mean is considerably larger then the median, then there are likely a few very high concentrations raising the mean. Another useful measure is to compare the 90th percentile against the evaluation level. For most parameters, 10% exceedance of the evaluation levels is considered a violation. Therefore the 90th (or 10th in the case of minimum evaluation levels) percentile exceeding the evaluation level is an equivalent statement.

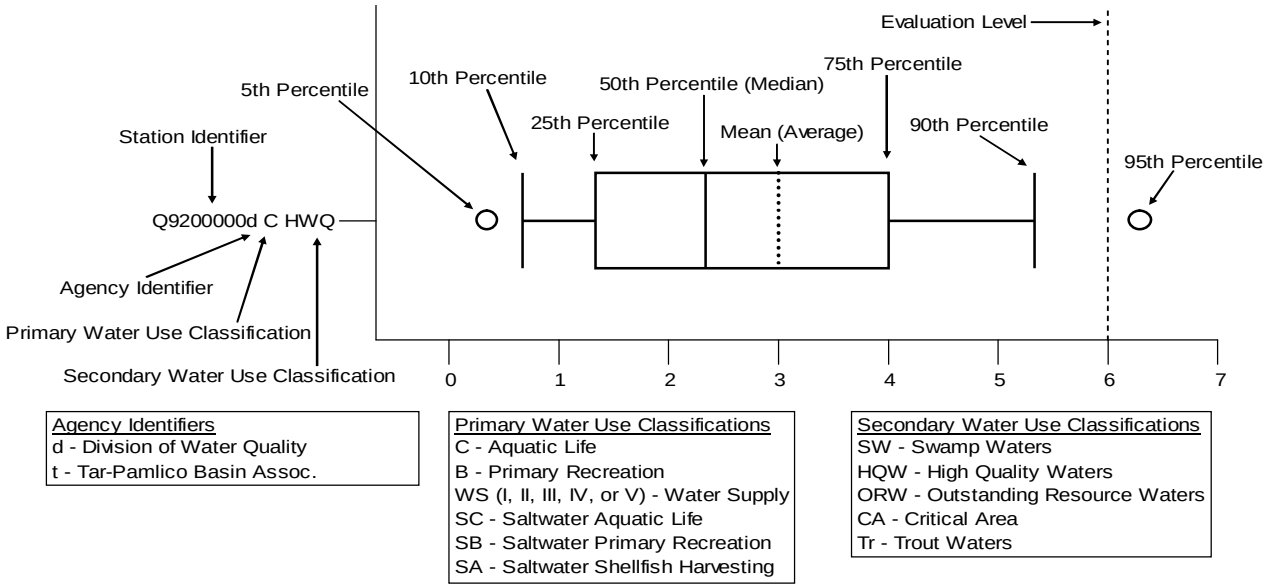


Figure 3. An Example Box Plot for a Station

Figure 4 is an example of a box and whisker plot that is comparing four HUCs for a single parameter. In this case the box plots are vertical instead of horizontal. Also note that a ñmean diamondò is present on each. The center line of each diamond is the average. The short lines above and below the center are called ñoverlap marksò and represent a 95% confidence interval for the mean. To compare means, extend the overlap marks as shown in the figure. If the overlap mark of one diamond is closest to the mean line of another diamond then the two averages are not significantly different. If the overlap line is closer to the other diamondôs overlap mark, then they are significantly different.

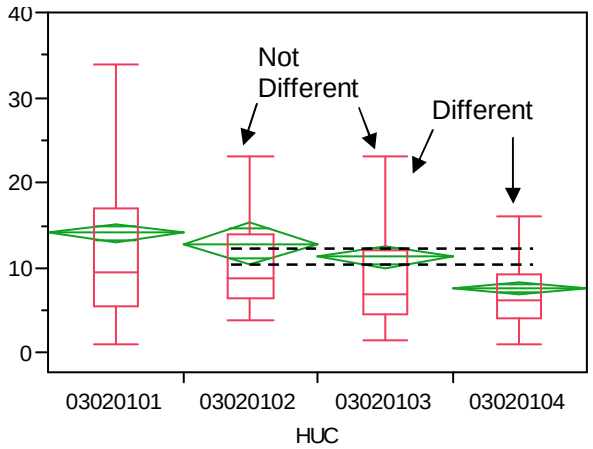


Figure 4. A Box Plot for Comparing HUCs

Scatterplots

Scatter plots are used to depict change over time. These data have been tested against linear trends. If there is at least 95% confidence that a linear trend explains the data better then chance (Prob > F of 0.05 or less), then that linear trend line is included on the scatter plot. The percentage of variance explained by the linear model (r^2 value) is displayed for each trend.

PARAMETERS

Dissolved Oxygen

Dissolved oxygen is one of the most important of all the chemical measurements. Dissolved oxygen provides valuable information about the ability of the water to support aquatic life and the capacity of water to assimilate point and nonpoint discharges. Water quality standards for dissolved oxygen vary depending on the classification of the body of water. For freshwaters, 15A NCAC 02B .0211 (3)(b) specifies:

Dissolved oxygen: not less than 6.0 mg/l for trout waters; for non-trout waters, not less than a daily average of 5.0 mg/l with a minimum instantaneous value of not less that 4.0 mg/l; swamp waters, lake coves or backwaters, and lake bottom waters may have lower values if caused by natural conditions.

For saltwaters, 15A NCAC 02B .0220 (3)(b) applies instead:

Dissolved oxygen: not less than 5.0 mg/l, except that swamp waters, poorly flushed tidally influenced streams or embayments, or estuarine bottom waters may have lower values if caused by natural conditions.

Consistent patterns of low concentrations of dissolved oxygen can be subject to intense management review and corrective actions, if they do not appear to be naturally occurring.

pH

The pH of natural waters can vary throughout the state. Low values (<< 7.0 s.u.) can be found in waters rich in dissolved organic matter, such as swamp lands, whereas high values (>> 7.0 s.u.) may be found during algal blooms. Point source dischargers can also influence the pH of a stream. The measurement of pH is relatively easy; however the accuracy of field measurements is limited by the abilities of the field equipment, which is generally accurate to within 0.2 S.U. This is due, in part, because the scale for measuring pH is logarithmic (i.e. a pH of 8 is ten times less concentrated in hydrogen ions than a pH of 7). The water quality standards for pH in freshwaters consider values less than 6.0 s.u. or greater than 9.0 s.u. to warrant attention. In swamp waters, a pH below 4.3 s.u. is of concern. For saltwaters, the acceptable range is more strict: 6.8 s.u. to 8.5 s.u.

Specific Conductance

In this report, conductivity is synonymous with specific conductance. It is reported in micro-mhos per centimeter (µmhos/cm) at 25°C. Conductivity is a measure of the ability of water to conduct an electric current. The presence of ions and temperature are major factors in the ability of water to conduct a current. Clean freshwater has a low conductivity, whereas high conductivities may indicate polluted water or saline conditions. Measurements reported are corrected for temperature, thus the range of values reported over a period of time indicate the relative presence of ions in water. North Carolina freshwater streams have a natural conductance range of 17-65 εmhos/cm (USGS 1992).

Conductivity can be used to evaluate variations in dissolved mineral concentrations (ions) among sites with varying degrees of impact resulting from point source discharges. Generally, impacted sites show elevated and widely ranging values for conductivity. Water bodies that contain saltwater will also have high conductivities.

Therefore those wishing to use conductivity as an indicator for problems must first account for salinity, because the Tar-Pamlico River Basin includes saltwaters.

Turbidity

Turbidity data may denote episodic high values on particular dates or within narrow time periods. These can often be the result of intense or sustained rainfall events; however elevated values can occur at other times. In coastal areas, tidal surges can also disturb shallow estuarine sediments and naturally increase turbidity. There are coastal areas in the Tar-Pamlico River Basin.

Nutrients

Compounds of nitrogen and phosphorus are major components of living organisms and thus are essential to maintain life. These compounds are collectively referred to as õnutrients.ò Nitrogen compounds include ammonia-nitrogen (NH_3-N), total Kjeldahl nitrogen (TKN) and nitrite+nitrate nitrogen (NO_2+NO_3-N). Phosphorus is measured as total phosphorus. When nutrients are introduced to an aquatic ecosystem from municipal and industrial treatment processes, or runoff from urban or agricultural land, the excessive growth of algae (algal blooms) and other plants may be accelerated.

At neutral pH in water, ammonia normally forms an ionized solution of ammonium hydroxide, with a small amount of deionized ammonia. However, as pH increases, more ammonia is left deionized. Deionized ammonia is toxic to fish and other aquatic organisms.

Fecal Coliform Bacteria

Concentrations of fecal coliform bacteria can vary greatly. The descriptive statistics used to evaluate fecal coliform bacteria data include the geometric mean and the median depending on the classification of the waterbody. For all sites in the Tar-Pamlico River Basin, the standard specified in Administrative Code 15A NCAC 02B.0211 (3)(e) (May 1, 2007) is applicable:

Organisms of the coliform group: fecal coliforms shall not exceed a geometric mean of 200/100ml (MF count) based upon at least five consecutive samples examined during any 30 day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period; violations of the fecal coliform standard are expected during rainfall events and, in some cases, this violation is expected to be caused by uncontrollable nonpoint source pollution; all coliform concentrations are to be analyzed using the membrane filter technique unless high turbidity or other adverse conditions necessitate the tube dilution method; in case of controversy over results, the MPN 5-tube dilution technique shall be used as the reference method.

For waters where commercial shellfishing is done (Class SA), an additional water quality standard is applied (15A NCAC 02B .0221 (3)(d) (May 1, 2007):

Organisms of coliform group: fecal coliform group not to exceed a median MF of 14/100 ml and not more than 10 percent of the samples shall exceed and MF count of 43/100 ml in those areas most probably exposed to fecal contamination during the most unfavorable hydrographic and pollution conditions.

Class SA, non-SA tidal saltwaters, and fresh waters are present in the Tar-Pamlico River basin. All sites where the geometric mean was greater than 200 colonies/100ml, or where greater than 20 percent of the results exceed 400 colonies/100ml (i.e. all sites that exceed the evaluation level) are indicated on the respective station summary sheets. In addition, class SA sites where the median exceeds 14 colonies/100ml or where greater than 10 percent of the results exceed 43 colonies/100ml (all SA sites that exceed the evaluation level) are indicated on the sheets.

Fecal coliform problems are screened for using monthly sampling results. Because the standard requires five samples within 30 days, additional sampling is required to evaluate the standard. For Class B, Class SB, and Class SA waters, if the results of the screening evaluation exceed the evaluation level, then sampling that meets

the ñfive samples in 30 daysò requirement will be completed. For other less critical waters, sampling that meets the ñfive samples in 30 daysòrequirement will be completed as resources permit.

In addition, for all tidal salt waters, the following is applicable 15A NCAC 02B .0220 (3)(e) (May 1, 2007):

Enterococcus, including Enterococcus faecalis, Enterococcus faecium, Enterococcus avium, and Enterococcus gallinarium: not to exceed a geometric mean of 35 enterococci per 100 ml based upon a minimum of five samples within any consecutive 30 days.

DWQ and the discharger coalitions do not collect Enterococcus samples. The N.C. Recreational Water Quality Program (NCRWQP) collects enterococcus samples. Their mission is to protect the public health by monitoring the quality of N.C.'s coastal recreational waters and notifying the public when bacteriological standards for safe bodily contact are exceeded. The coastal waters monitored include the ocean beaches, sounds, bays and estuarine rivers.

Enterococcus bacteria is an indicator organism found in the intestines of warm-blooded animals. While it may not cause illness itself, its presence is correlated with that of organisms that can cause illness. The program tests 239 ocean and sound-side areas. Swimming season begins on April 1st and ends Sept. 30th. All ocean beaches and high-use sound-side beaches (Tier 1) are tested weekly. Lower-use beaches (Tier 2 and Tier 3) are tested twice a month. All sites are tested twice a month in October and monthly from November through March. The NCRWQP currently uses single sample test to determine compliance with their rules (15A NCAC 18A .3402):

(a) The Enterococcus level in a Tier I swimming area shall not exceed either:

(1) A geometric mean of 35 enterococci per 100 milliliter of water, that includes a minimum of at least five samples collected within 30 days; or

(2) A single sample of 104 enterococci per 100 milliliter of water.

(b) The enterococcus level in a tier II swimming area shall not exceed a single sample of 276 enterococci per 100 milliliter of water.

*(c) The enterococcus level in a tier III swimming area shall not exceed two consecutive samples of 500 enterococci per 100 milliliter of water*ò

The results of their sampling can be found on their website:
http://www.deh.enr.state.nc.us/shellfish/Water_Monitoring/RWQweb/home.htm

WATER QUALITY MONITORING RESULTS SUMMARY

Water Quality within the basin during the evaluation period is summarized in the following tables.

Table 6. Summary of Evaluation Level Exceedances (1 of 3)

Station ID	Stream Class	Agency	Dissolved Oxygen (<4 mg/L)	pH (<6 SU) (freshwater)	pH (>9 SU) (freshwater)	pH (<4.3 SU) (swampwater)	Water Temperature (>32 °C)	Chlorophyll a (>40)	Turbidity (>50 NTU)	Nitrate & Nitrite (>10 mg/L)	Fecal Coliform (>400 colonies/100 mL)*	Fecal Coliform (Geomean > 200)*
HUC 03020101 : Tar River Headwaters												
O0057000	WS-IV NSW	TPBA	30.0%	0.0%	0.0%	NS	0.0%	NC	L10	L10	L10	L10
O0100000	WS-V NSW	NCAMBNT	1.9%	0.0%	0.0%	NS	0.0%	NC	3.6%	0.0%	10.9%	90
O0310000	C NSW	TPBA	21.4%	0.0%	0.0%	NS	0.0%	NC	L10	NS	L10	L10
O0600000	C NSW	NCAMBNT	0.0%	0.0%	0.0%	NS	0.0%	NC	9.1%	NS	21.8%	148
O1025000	WS-IV NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	10.0%	0.0%	30.0%	152
O1030000	C NSW	TPBA	13.3%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	30.0%	172
O1100000	WS-V NSW	NCAMBNT	0.0%	0.0%	0.0%	NS	0.0%	NC	3.7%	NC	11.1%	91
O1600000	C NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	10.0%	111
O1920000	C NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	20.0%	NS	30.0%	237
O2000000	WS-V NSW	NCAMBNT	0.0%	0.0%	0.0%	NS	0.0%	NC	1.9%	NC	7.4%	86
		TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	20.0%	118
O2015000	C NSW	TPBA	60.0%	0.0%	0.0%	NS	0.0%	NC	10.0%	NS	10.0%	141
O2020000	C NSW	TPBA	53.3%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	10.0%	39
O2101000	WS-V NSW	TPBA	13.3%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	10.0%	34
O2102000	WS-V NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	10.0%	24
O2140000	WS-IV NSW CA	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	10.0%	73
O2320000	WS-IV NSW	TPBA	66.7%	0.0%	0.0%	NS	0.0%	NC	0.0%	NC	0.0%	65
O2360000	WS-IV NSW	TPBA	40.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	38
O3140000	C NSW	TPBA	26.7%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	30.0%	146
O3180000	C NSW	NCAMBNT	0.0%	0.0%	0.0%	NS	1.8%	NC	0.0%	NC, NS	12.7%	71
O3189000	C NSW	TPBA	6.7%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	20.0%	63
O3600000	WS-IV NSW	NCAMBNT	0.0%	1.9%	0.0%	NS	0.0%	NC	1.9%	0.0%	11.5%	70
		TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	54
O3830000	B NSW +	NCAMBNT	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NC, NS	1.9%	36
O3870000	C ORW NSW	NCAMBNT	0.0%	1.8%	0.0%	NS	0.0%	NC	0.0%	NC, NS	10.9%	104
O4000000	WS-IV NSW	NCAMBNT	0.0%	2.5%	0.0%	NS	0.0%	NC	0.0%	NC	12.5%	76
O4100000	WS-IV NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	60
HUC 03020102 : Fishing Creek												
O4300000	C NSW	TPBA	26.7%	6.7%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	66
O4400500	C NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	62
O4480000	WS-V NSW	TPBA	20.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	63
O4630000	C NSW	TPBA	20.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	80
O4670000	WS-IV NSW	TPBA	7.1%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	41

O4680000	C NSW	NCAMBNT	0.0%	1.8%	0.0%	NS	0.0%	NC	1.9%	NS	10.9%	58
O4690000	C NSW	TPBA	13.3%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	10.0%	50
O4899000	WS-IV NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	39
O4995000	C NSW	TPBA	80.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	10.0%	101
O5100000	C NSW	TPBA	66.7%	6.7%	0.0%	NS	0.0%	NC	0.0%	NS	20.0%	143

Notes: NS: **No Standard** exists for this parameter in this stream class.
NC: Samples for this parameter were **Not Collected**.
L10: **Less than 10** samples were collected for this parameter, therefore the results were not assessed.
*: Screening evaluation

Table 6 (Continued). Summary of Evaluation Level Exceedances (2 of 3)

Station ID	Stream Class	Agency	Dissolved Oxygen (<4 mg/L)	pH (<6 SU) (freshwater)	pH (>9 SU) (freshwater)	pH (<4.3 SU) (swampwater)	Water Temperature (>32 °C)	Chlorophyll a (>40)	Turbidity (>50 NTU)	Nitrate & Nitrite (>10 mg/L)	Fecal Coliform (>400 colonies/100 mL)*	Fecal Coliform (Geomean > 200)*
HUC 03020103 : Tar River												
O5250000	C NSW	NCAMBNT	0.0%	1.8%	0.0%	NS	0.0%	NC	0.0%	NS	9.1%	58
		TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	L10	NS, L10	L10	36
O5600000	C NSW	TPBA	53.3%	13.3%	0.0%	NS	0.0%	NC	0.0%	NS, NC	0.0%	52
O5990000	C NSW	TPBA	53.3%	6.7%	0.0%	NS	0.0%	NC	0.0%	NS, NC	0.0%	50
O6000000	C NSW	TPBA	0.0%	6.7%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	51
O6200000	WS-IV NSW	NCAMBNT	0.0%	1.7%	0.0%	NS	0.0%	NC	1.7%	0.0%	6.8%	66
O6201000	C NSW	TPBA	73.3%	13.3%	0.0%	NS	0.0%	NC	30.0%	NS	50.0%	249
O6205000	C NSW	NCAMBNT	7.0%	32.2%	0.0%	NS	0.0%	NC	1.7%	NS	10.2%	68
O6240000	WS-IV NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	0.0%	0.0%	32
O6450000	C NSW	NCAMBNT	41.4%	5.0%	0.0%	NS	0.0%	NC	0.0%	NS	11.7%	99
O6500000	B NSW	NCAMBNT	1.8%	1.8%	0.0%	NS	0.0%	NC	0.0%	NS	5.3%	46
O6700000	C NSW	TPBA	0.0%	6.7%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	62
O6798000	C NSW	TPBA	0.0%	0.0%	0.0%	NS	0.0%	NC	0.0%	NS	0.0%	43
O7000000	C Sw NSW	TPBA	NS	NS	0.0%	0.0%	0.0%	NC	0.0%	NS	20.0%	87
O7100000	C Sw NSW	TPBA	NS	NS	0.0%	0.0%	0.0%	NC	10.0%	NS	10.0%	114
O7300000	C Sw NSW	NCAMBNT	NS	NS	0.0%	0.0%	0.0%	1.9%	0.0%	NS	6.8%	51
HUC 03020104: Pamlico River (freshwater)												
O9755000	C Sw NSW	NCAMBNT	NS	NS	0.0%	75.0%	0.0%	NC	3.3%	NS	5.0%	16

Notes: NS: **No Standard** exists for this parameter in this stream class.
NC: Samples for this parameter were **Not Collected**.
L10: **Less than 10 samples** were collected for this parameter, therefore the results were not assessed.
*: Screening evaluation

Table 6. (Continued) Summary of Evaluation Level Exceedances (3 of 3)

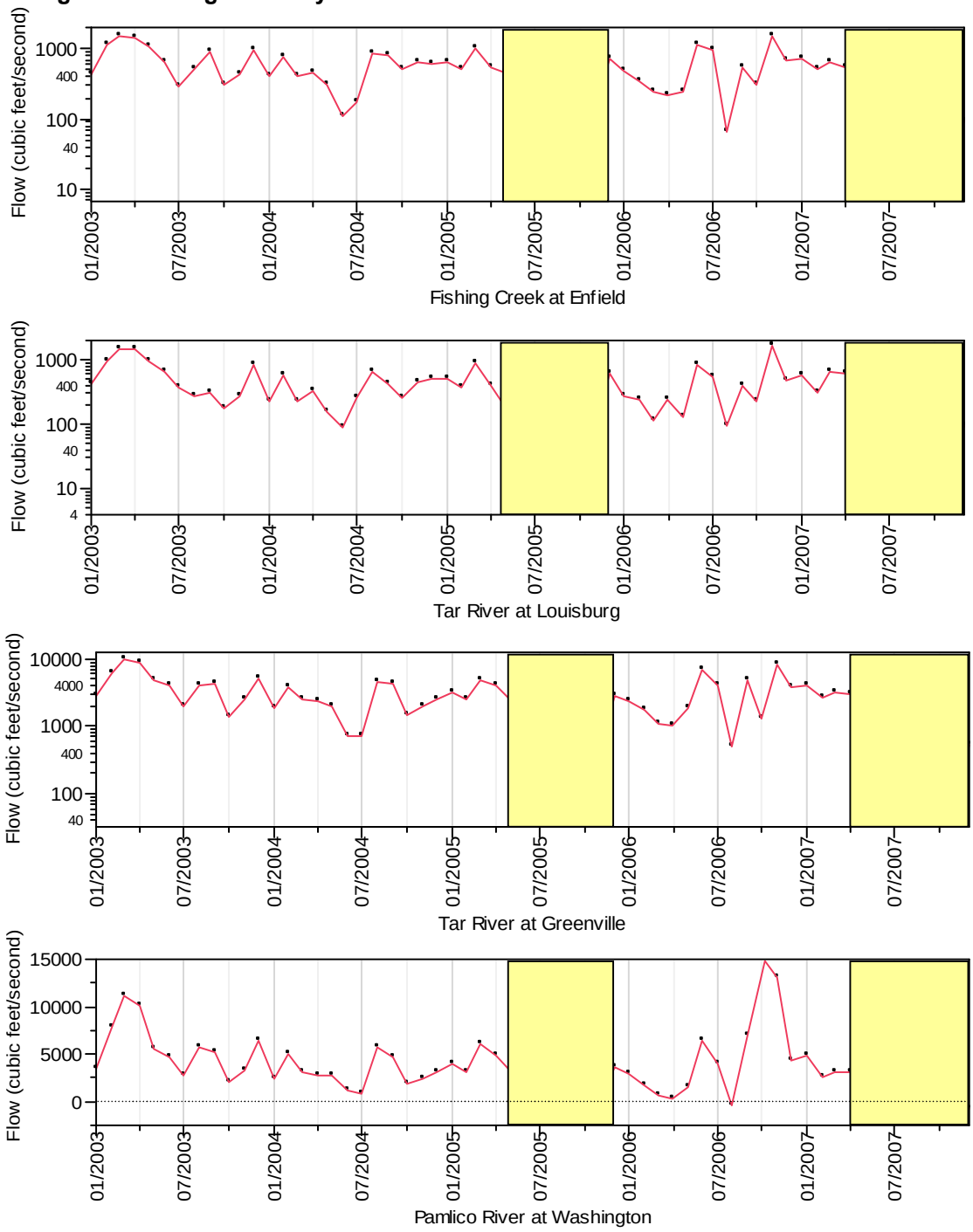
Station ID	Stream Class	Agency	Dissolved Oxygen (<5 mg/L) (saltwater)	pH (<6.8 SU) (saltwater)	pH (>8.5 SU) (saltwater)	Water Temperature (>32 °C)	Chlorophyll a (>40)	Turbidity (>25 NTU) (saltwater)	Fecal Coliform (>400 colonies/100 mL)	Fecal Coliform (Geomean > 200)	Fecal Coliform (>43 colonies/100 mL) (Class SA Waters)	Fecal Coliform (Median > 14) (Class SA Waters)
HUC 03020104: Pamlico River (saltwater)												
O7650000	SC NSW	NCAMBNT	6.0%	16.1%	0.0%	0.0%	8.3%	0.8%	1.7%	42	NS	NS
O7680000	SB NSW	NCAMBNT	4.3%	13.6%	0.8%	0.0%	16.5%	2.5%	2.5%	27	NS	NS
O7710000	SC NSW	NCAMBNT	1.7%	5.9%	3.4%	0.0%	30.6%	1.7%	0.0%	13	NS	NS
O787000C	SB NSW	NCAMBNT	1.7%	10.1%	4.2%	0.0%	21.1%	1.7%	0.8%	9	NS	NS
O787000N	SB NSW	NCAMBNT	0.9%	7.6%	5.1%	0.0%	L10	2.5%	1.7%	16	NS	NS
O787000S	SB NSW	NCAMBNT	0.9%	5.9%	5.9%	0.0%	L10	2.5%	0.0%	8	NS	NS
O8495000	SB NSW	NCAMBNT	0.0%	1.7%	10.3%	1.7%	21.3%	0.8%	0.8%	12	NS	NS
O8498000	SB NSW	NCAMBNT	0.0%	0.8%	5.0%	0.0%	22.9%	0.8%	0.0%	3	NS	NS
O865000C	SB NSW	NCAMBNT	0.0%	4.2%	3.4%	0.8%	20.2%	0.0%	0.0%	2	NS	NS
O865000N	SB NSW	NCAMBNT	0.0%	3.4%	3.4%	0.0%	NC	0.0%	0.0%	2	NS	NS
O865000S	SB NSW	NCAMBNT	0.0%	4.3%	4.3%	0.9%	L10	0.0%	0.0%	2	NS	NS
O9059000	SA HQW NSW	NCAMBNT	0.0%	2.5%	4.2%	0.8%	8.3%	0.0%	0.0%	2	1.7%	1
O9750500	SC NSW	NCAMBNT	1.8%	6.7%	5.0%	3.3%	38.2%	3.4%	3.3%	22	NS	NS
O9751000	SC NSW	NCAMBNT	5.5%	10.2%	5.1%	3.4%	18.5%	5.2%	6.8%	18	NS	NS
O9758500	SB NSW	NCAMBNT	23.6%	62.7%	0.0%	3.4%	1.9%	1.7%	1.7%	41	NS	NS
O9760000	SB NSW	NCAMBNT	10.0%	30.0%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O9761000	SB NSW	NCAMBNT	0.0%	23.3%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O9762000	SB NSW	NCAMBNT	0.0%	13.3%	0.0%	3.3%	NC	NC	NC	NC	NS, NC	NS, NC
O976300C	SB NSW	NCAMBNT	0.0%	3.1%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O976300E	SB NSW	NCAMBNT	0.0%	0.0%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O976300W	SB NSW	NCAMBNT	0.0%	6.5%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O9764000	SB NSW	NCAMBNT	0.0%	0.0%	0.0%	0.0%	NC	NC	NC	NC	NS, NC	NS, NC
O9765000	SA HQW NSW	NCAMBNT	0.0%	0.0%	3.1%	0.0%	NC	NC	NC	NC	NC	NC
O976600C	SA HQW NSW	NCAMBNT	0.0%	0.0%	0.0%	0.0%	NC	NC	NC	NC	NC	NC
O976600E	SA HQW NSW	NCAMBNT	0.0%	0.0%	0.0%	0.0%	NC	NC	NC	NC	NC	NC
O976600W	SA HQW NSW	NCAMBNT	0.0%	0.0%	0.0%	0.0%	NC	NC	NC	NC	NC	NC
O982500C	SA HQW NSW	NCAMBNT	0.0%	0.9%	4.4%	0.9%	3.8%	0.9%	0.0%	1	1.7%	1
O982500N	SA HQW NSW	NCAMBNT	0.0%	0.9%	2.6%	0.0%	NC	0.9%	0.0%	1	0.9%	1
O982500S	SA HQW NSW	NCAMBNT	0.0%	0.9%	4.3%	0.9%	L10	0.9%	0.0%	2	1.7%	1
HUC 03020105: Pamlico Sound												
No Active Stations												

Notes: NS: **No Standard** exists for this parameter in this stream class.
NC: Samples for this parameter were **Not Collected.**
L10: **Less than 10** samples were collected for this parameter, therefore the results were not assessed**.**
*: Screening evaluation

STREAM FLOW AND DROUGHT

The rate at which a volume of water moves through a stream (the flow rate) can have an impact on the measurement of other parameters. In particular, droughts can have major effects on parameters such as dissolved oxygen, turbidity, pH, and others by dropping stream flow. Therefore it is useful to track changes in stream flow over the course of the assessment period, to see when drought effects might be present. Two droughts have effected flow during the assessment period, first between May to December 2005, and a second more profound drought effect from April 2007 to beyond the end of the assessment period. Note that during the second drought, the Tar-Pamlico River reversed direction (shown as negative flow) as saltwater from Pamlico Sound began to intrude farther upstream. This data was collected from USGS-monitored flow gauges.

Figure 5. Average Monthly Flow at Four Locations in the Tar-Pamlico River Basin



DWQ & TPBA DATA: A COMPARISON

DWQ and TPBA share 3 monitoring sites in the Tar-Pamlico basin specifically chosen to create an opportunity to compare datasets. Following are comparisons of dissolved oxygen and pH collected by DWQ and TPBA at these 3 sites for the period February/March 2007 through December 2007. For the most part the data are comparable, which provides assurance that each program is properly measuring and collecting samples. Variation at some sites can be explained by differences in sampling dates, equipment, laboratories, and specific sampling locations. In situations where large differences are apparent, having the two datasets to compare can help identify errors. For these reasons, DWQ and TPBA data are kept separate for assessment purposes.

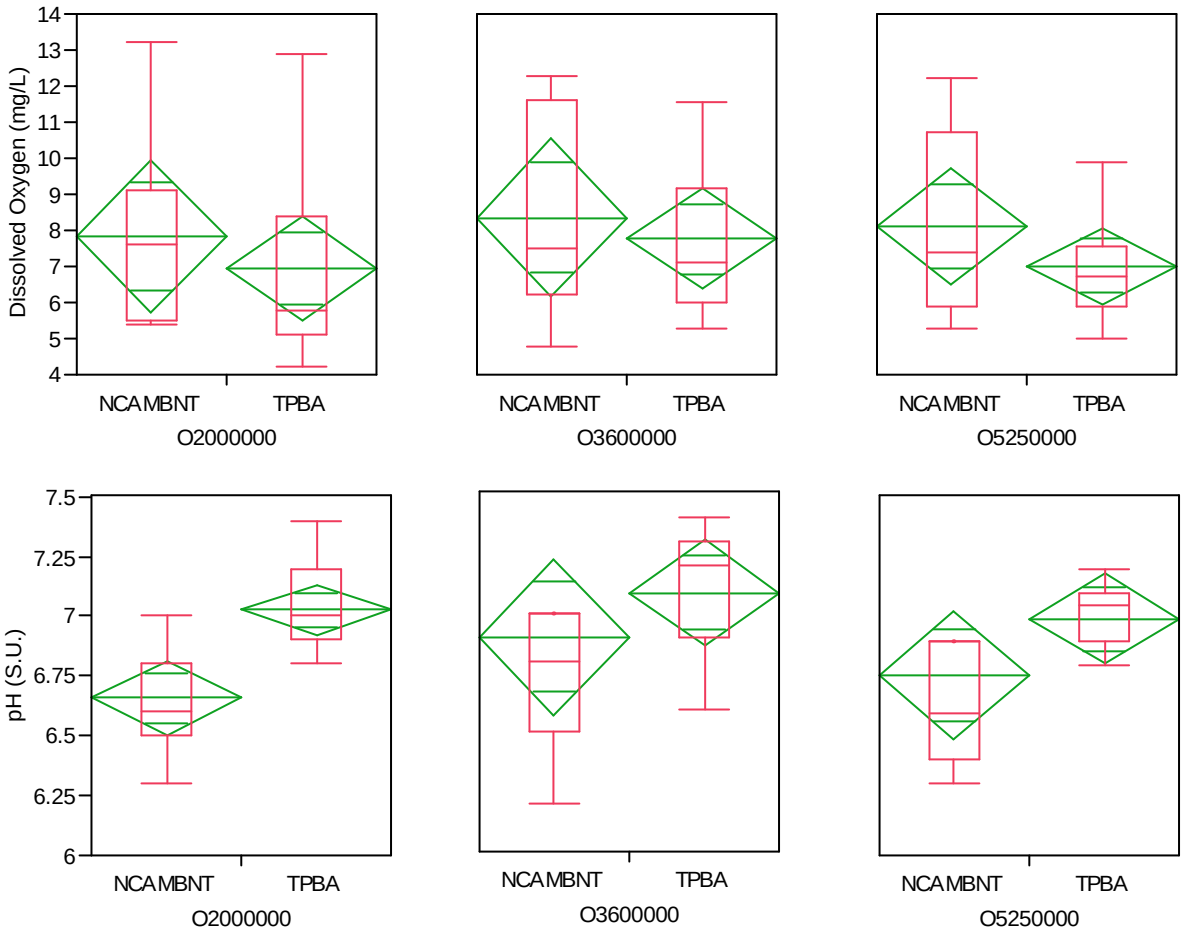


Figure 6. A Comparison of AMS and TPBA Results at Shared Stations

Dissolved Oxygen compares fairly well across all three, with considerable overlap of green ñmean diamondsò, which indicates that the average values are not significantly different from each other. However, in each case the values from the TPBA are slightly lower then the NCAMBNT results. This is mostly likely caused by the twice-monthly samples that TPBA collects between May and September. Low flows and high temperatures typically found in the summer months tend to reduce dissolved oxygen concentrations. Negating this effect by using monthly averages for months with two samples on average reduces the difference between the means by 63%.

Considerable overlap of pH averages is also seen between agencies for two of the sites, though not as much as for dissolved oxygen. There appears to be significant difference in pH values at O2000000, as well. However, only 27% of the difference can be explained by twice monthly sampling. Other causes of variation, such as difference in equipment or differences in the sampling date, may be in play.

WATER QUALITY PATTERNS IN THE TAR-PAMLICO RIVER BASIN

Box and whisker plots, scatterplots, and maps were used to depict data for a variety of water quality parameters throughout the basin. While graphs portray information visually, specific and accurate details can only be conveyed in tables. Individual station summary sheets should be consulted when exact information is needed. For the box plots, stations with fewer then 10 data points for a given parameter were not included. This occasionally occurred when a new station was added or an old station was moved in the basin.

Each level of comparison was depicted in the following ways:

- Comparing stations ï box plots
- Assessing Stations ï tables
- Comparing HUCs ï box plots and scatterplots
- Assessing trends - scatterplots
- Assessing the basin ï maps

Comparing Stations

Figure 15 through **Figure 41** are horizontal box plots that compare stations (grouped by HUC for ease of viewing) for each of the following parameters: dissolved oxygen, pH, specific conductance, turbidity, chlorophyll a, fecal coliform, ammonia, total kjeldahl nitrogen, total nitrates and nitrites, and total phosphorus. Those stations that appear to be substantially worse then the rest are included in the following tables. The box plots are included in **Appendix B**.

Dissolved Oxygen

There are many sites in the basin for this assessment period that have low dissolved oxygen measurements. However, most of these sites are TPBA sites, which only began monitoring in March 2007. Nearly the entire monitoring history for these sites was during the 2007 drought, which, due to drops in flow, suppressed dissolved oxygen levels. Therefore, these stations cannot be confidently considered anthropogenicly impaired for drought-impacted parameters, such as dissolved oxygen. **Table 7** lists the stations with the lowest average dissolved oxygen concentrations (not including waters classified as swamp). All of these are TPBA stations.

Table 7. Stations of Interest for Dissolved Oxygen

Station ID	Location	Fresh/Salt	Average Value
Basinwide Average	(all Freshwater Stations)	Freshwater	7.37 mg/L
O4995000	Deep Creek at SR 1104 near Scotland Neck	Freshwater	2.37 mg/L
O6201000	Ballahack Canal at SR 1526 near Conetoe	Freshwater	2.91 mg/L
O5100000	Deep Creek at US 258 nr Scotland Neck	Freshwater	3.26 mg/L
O2015000	Crooked Creek at SR 1719 near Bunn	Freshwater	3.60 mg/L
O2320000	Sapony Creek at SR 1704 near Nashville	Freshwater	3.83 mg/L
O5600000	Town Creek at NC 111 near Wiggins Crossroads	Freshwater	3.86 mg/L

pH

Van Swamp at NC 32 near Hoke has an exceptionally low pH. Due to large amounts of decaying organic matter, swamp waters are expected to have low pH values. However, the average pH value at Van Swamp is 3.91, which is low even for a swamp. In addition to Van Swamp, there are several other stations that appear to have lower then normal pH. This may be a drought effect, or caused by drainage from nearby swamps to these stations (**Table 8**).

Table 8. Stations of Interest for pH

Station ID	Location	Fresh/Salt	Average Value
Basinwide Average	(all Freshwater Stations)	Freshwater	6.77 SU
O9755000	Van Swamp at NC 32 near Hoke	Freshwater	3.91 SU
O4300000	Fishing Creek at SR 1001 near Warrenton	Freshwater	6.37 SU
O6201000	Ballahack Canal at SR 1526 near Conetoe	Freshwater	6.41 SU
O6205000	Conetoe Creek at SR 1409 near Bethel	Freshwater	6.45 SU
O5600000	Town Creek at NC 111 near Wiggins Crossroads	Freshwater	6.53 SU
Basinwide Average	(all Saltwater Stations)	Saltwater	7.56 SU
O9758500	Pungo River at US 264 near Ponzer	Saltwater	6.47 SU

Turbidity

Two stations appear to stand out from the rest of the basin for turbidity (**Table 9**). Both of these stations are TPBA stations, however drought and low flow tends to reduce turbidity, not increase it. Low flow can result in high turbidity if the water level has gotten so low that stream bottom sediment is easily disturbed.

Table 9. Stations of Interest for Turbidity

Station ID	Location	Average Value
Basinwide Average	(all Stations)	9.6 NTU
O6201000	Ballahack Canal at SR 1526 near Conetoe	88.67 NTU
O1920000	Cedar Creek at SR 1109 near Louisburg	36.05 NTU

Fecal Coliform

There are three stations of particular Interest for fecal coliform in the basin, all of which exceed the geomean evaluation level of 200 colonies per 100 mL (**Table 10**). Spikes of fecal coliform are often associated with heavy rainfall. It is unknown what may have caused the geomeans for these stations to be so high. Note that station O0310000 is not listed in **Table 6** because only 9 samples were collected during the assessment period.

Table 10. Stations of Interest for Fecal Coliform

Station ID	Location	Geomean
Basinwide Average	(all Stations)	63 colonies/100 mL
O0310000	Fishing Creek at SR 1649 at Oxford	327 colonies/100 mL
O6201000	Ballahack Canal at SR 1526 near Conetoe	249 colonies/100 mL
O1920000	Cedar Creek at SR 1109 near Louisburg	237 colonies/100 mL

Chlorophyll a

Multiple stations in the Pamlico River, Pungo River, and tributaries are often favorable to algae blooms. In particular, station O9750500, Pungo Creek at NC 92 at Sydney Crossroads, is substantially above average (**Table 11**). Portions of the Pamlico River, Bath Creek, Pantego Creek, and Pungo Creek have already been impaired for chlorophyll a exceedances since 2006.

Table 11. Stations of Interest for Chlorophyll a

Station ID	Location	Average Value
Pamlico River HUC Average	-	27.0 ug/L
O9750500	Pungo Creek at NC 92 at Sydney Crossroads	86.7 ug/L
O8495000	Bath Creek at NC 92 near Bath	34.4 ug/L
O7710000	Chocowinity Bay near Whichard Beach	33.4 ug/L
O9751000	Pantego Creek at NC 92 at Belhaven	31.7 ug/L

Nutrients

Inorganic Nitrogen ï Typically inorganic nitrogen is utilized by algae for growth, but due to many other confounding factors, it is not possible to correlate inorganic nitrogen to chlorophyll a concentrations directly. High levels of Inorganic Nitrogen can indicate proximity to a source, such as agricultural land or a wastewater treatment plant, or it may indicate loading from sources farther upstream (**Table 12**).

Table 12. Stations of Interest for Inorganic Nitrogen

Station ID	Location	Average Value
Basinwide Average	-	0.24 mg/L
O6205000	Conetoe Creek at SR 1409 near Bethel	1.79 mg/L
O6201000	Ballahack Canal at SR 1526 near Conetoe	1.67 mg/L

Organic Nitrogen ï In ambient waters, organic nitrogen is typically nitrogen that is sequestered in algae or other organic matter. It is less accessible to algae for growth. It does correlate to chlorophyll a concentrations somewhat, and may be found in waters where a bloom is ongoing (**Table 13**).

Table 13. Stations of Interest for Organic Nitrogen

Station ID	Location	Average Value
Basinwide Average	-	0.68 mg/L
O4995000	Deep Creek at SR 1104 near Scotland Neck	1.85 mg/L
O6201000	Ballahack Canal at SR 1526 near Conetoe	1.57 mg/L
O5100000	Deep Creek at US 258 near Scotland Neck	1.54 mg/L
O9758500	Pungo River at US 264 near Ponzer	1.24 mg/L
O9755000	Van Swamp at NC 32 near Hoke	1.20 mg/L
O9750500	Pungo Creek at NC 92 at Sydney Crossroads	1.16 mg/L

Total Phosphorus ï Phosphorus is also utilized by algae for growth, and is incorporated into the algal cells. Therefore it is somewhat problematic to interperet its results, as it may mean there is an ongoing algae bloom, or that there is phosphorus available to fuel a bloom.

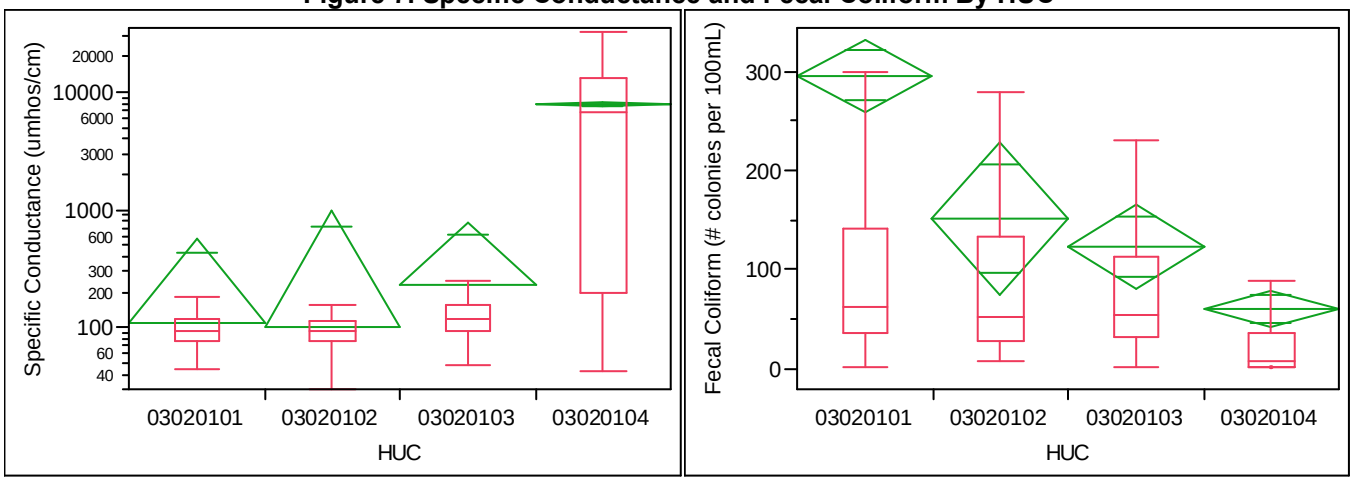
Table 14. Stations of Interest for Total Phosphorus

Station ID	Location	Average Value
Basinwide Average	-	0.12 mg/L
O7100000	Flat Swamp at SR 1157 near Robersonville	0.45 mg/L
O5100000	Deep Creek at US 258 near Scotland Neck	0.40 mg/L
O2140000	Tar River at SR 1981 near Cliftonville	0.40 mg/L
O7000000	Flat Swamp at SR 1159 near Robersonville	0.31 mg/L
O6201000	Ballahack Canal at SR 1526 near Conetoe	0.27 mg/L
O6450000	Chicod Creek at SR 1760 near Simpson	0.26 mg/L
O2102000	Tar River at NC 581 near Stanhope	0.23 mg/L

Comparing Hydrologic Regions (HUCs)

Comparisons between the four hydrologic regions (HUCs) area illustrated with box and whisker plots. For each box plot, the data for each station in the HUC is composited. For HUC locations, refer to **Figure 2**, and **Table 4**. Refer to **Figure 3** and **Figure 4** for a description of box and whisker plots. In the following discussion, each HUC is referred to by its last two digits, e.g. HUC 03020101 is HUC 01.

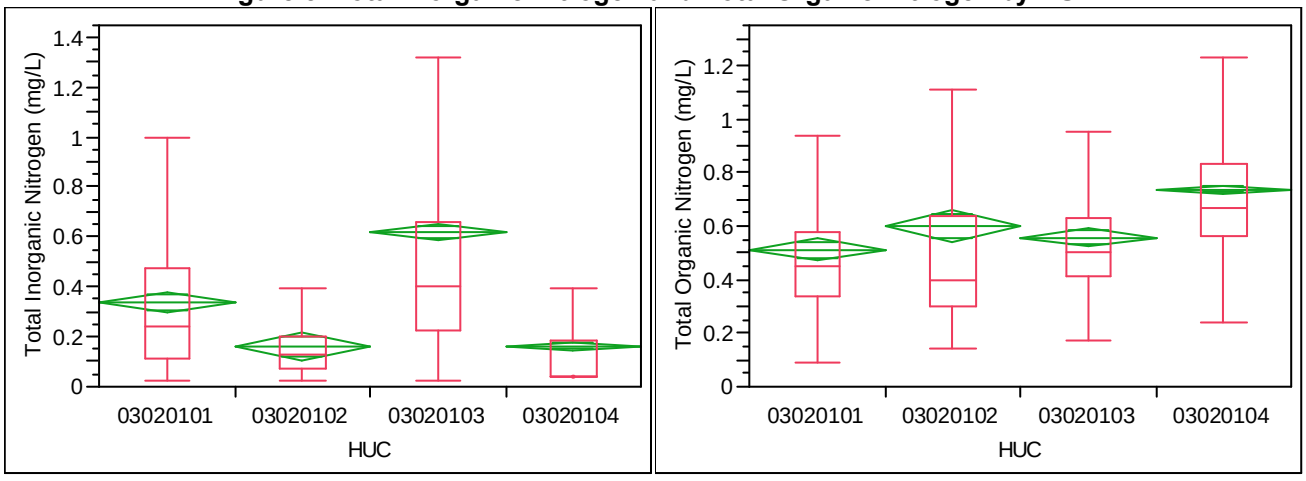
Figure 7. Specific Conductance and Fecal Coliform By HUC



Specific Conductance ï The ñmean diamondsòfor these graphs are depicted as triangles in this graph, because the lower ends would be below zero. In this case, the bottom line of the triangle is the mean line. HUCs 01 and 02 are entirely freshwater. HUC 04 contains all of the stations classified as saltwater in the basin, which accounts for the high specific conductance in this HUC compared to the rest of the basin. Note that the mean for HUC 03 is higher then the median. This is because some of the stations in the lower portion of this HUC experienced saltwater intrusions during the droughts.

Fecal Coliform – In each HUC the average concentration is much higher then the median. This is because fecal concentrations tend to remain low, then spike during rain events. As you move downstream, the flash-effect of rainstorms is balanced by the effect of dilution in the larger body of water, resulting in lower averages. Where water moves slowly enough, fecal coliform may be sequestered in sediment.

Figure 8. Total Inorganic Nitrogen and Total Organic Nitrogen by HUC



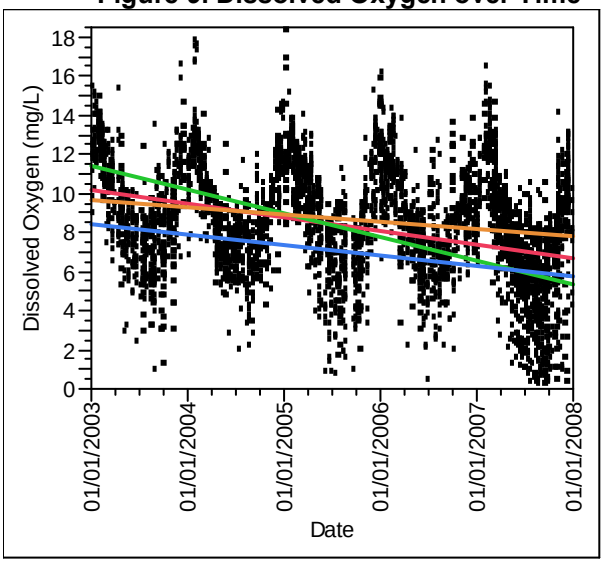
Inorganic Nitrogen – Inorganic nitrogen is utilized by algae for growth. Typically concentrations will increase the farther downstream you progress, until other limiting factors are released and chlorophyll a concentrations increase. Concentrations of inorganic nitrogen drop as it is taken up into algae and converted into organic nitrogen (TKN), which may explain why HUC 03 is high, and HUC 04 is low. Total phosphorus shows a similar pattern, and is used in the same way by algae.

Organic Nitrogen ï This describes organic nitrogen found in ambient waters, including that sequestered inside algae. During this basinwide cycle, approximately 43% of the variation in TON can be correlated directly to variation in chlorophyll a, which can explain why the concentration of TON in HUC 04 higher is then the rest.

Change over time trends are illustrated in the following scatterplots. If there is at least 95% confidence that a particular linear trend explains the data better then chance (Prob > F of 0.05 or less) then that linear trend was included on the graph. The percentage of variance explained by the linear model (r^2 value) is displayed for each trend.

Comparisons of the four hydrologic units yielded the following:

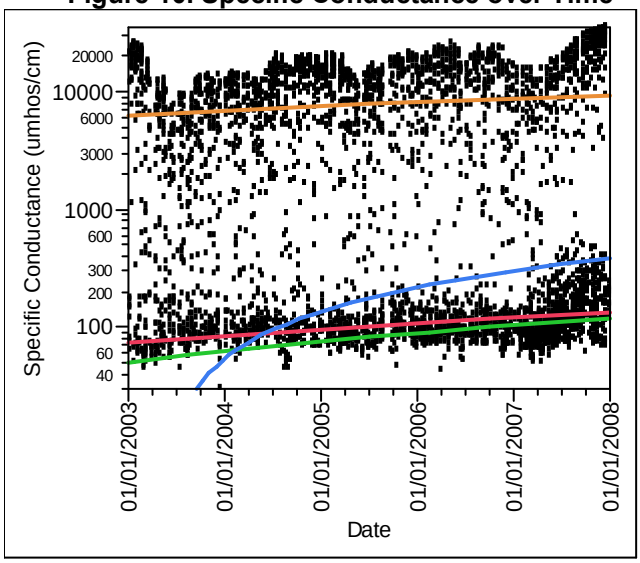
Figure 9. Dissolved Oxygen over Time



HUC: 03020101, R^2 = 0.123624
HUC: 03020102, R^2 = 0.225479
HUC: 03020103, R^2 = 0.077489
HUC: 03020104, R^2 = 0.042420

Though dissolved oxygen concentrations appear to have dropped over the past five years, examination of the data indicates that this drop is largely due to the drought during 2007. Extreme low flows during the summer of 2007 have lead to low dissolved oxygen levels. Strong seasonal variation is visible in the zig-zag pattern of points.

Figure 10. Specific Conductance over Time



HUC: 03020101, R^2=0.077093
HUC: 03020102, R^2=0.143154
HUC: 03020103, R^2=0.020321
HUC: 03020104, R^2=0.012166

Specific conductance also shows the effects of the drought. Low flow has allowed saltwater to intrude, raising conductivities beginning in early 2007. A rise is visible in both HUC 04 and HUC 03 in that time frame. Rises in HUC 01 and HUC 02 are likely due to the addition of the TPBA stations in early 2007. Because specific conductance is shown here on a logarithmic scale, some linear trends may appear curved.

The majority of North Carolina, including the Tar-Pamlico River Basin, experienced drought in 2007. The low-flow drought has impacted trends for several parameters, including specific conductance, dissolved oxygen, turbidity, chlorophyll a, and fecal coliform. The trends illustrated in the scatterplots for dissolved oxygen and specific conductance are reflecting the effect of drought primarily. Additionally, many of the parameters monitored by DWQ have a seasonal component. The graph of dissolved oxygen illustrates how the seasonal variation can be

much larger then any change from year to year. Measures related to productivity of the waters, such as TKN and Total Phosphorus also show a seasonal component.

In general, problem areas were scattered throughout the basin. 48% of stations in the Tar River headwaters HUC (HUC 03020101), 60% of stations in the Fishing Creek HUC (HUC 03020102), 33% of Stations in the Tar River HUC (HUC 03020103), and 47% of stations in the Pamlico River HUC (HUC 03020104) were observed to have at least one 10% exceedance. In three of four HUCs, the most common violation was for dissolved oxygen. There were a total of 20 sites with dissolved oxygen 10% violations. However, 19 of those sites are TPBA sites, which only began monitoring in March 2007. Their entire monitoring history was during the 2007 drought, which, due to drops in flow, suppressed dissolved oxygen levels.

Assessing The Basin

Viewing parameters on maps of the entire basin allows for a ñbig pictureò view of how exceedances are grouped geographically. Isolated problems can be discerned from regional or widespread ones. Maps depicting water quality standard exceedances for dissolved oxygen, pH, turbidity, and chlorophyll a are included as **Figures 11** though **14**.

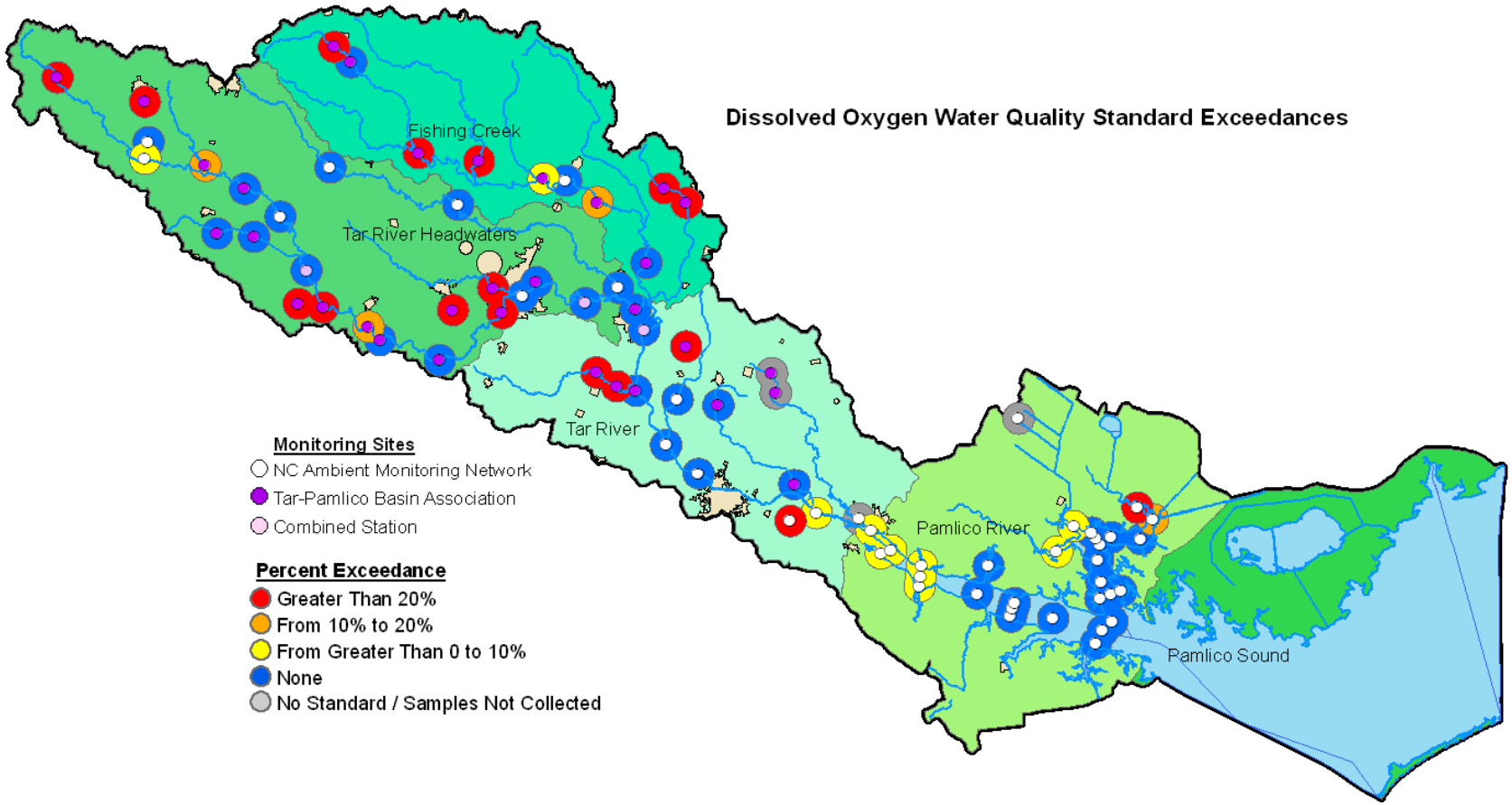


Figure 11. Dissolved Oxygen in the Tar-Pamlico River Basin

The evaluation level for dissolved oxygen concentrations displayed on this map is 4 mg/L. The widespread issues visible on the map were caused by the drought. Note that nearly all the red circles are located are TPBA stations. As noted earlier, the TPBA did not start sampling until March 2007 during the drought.

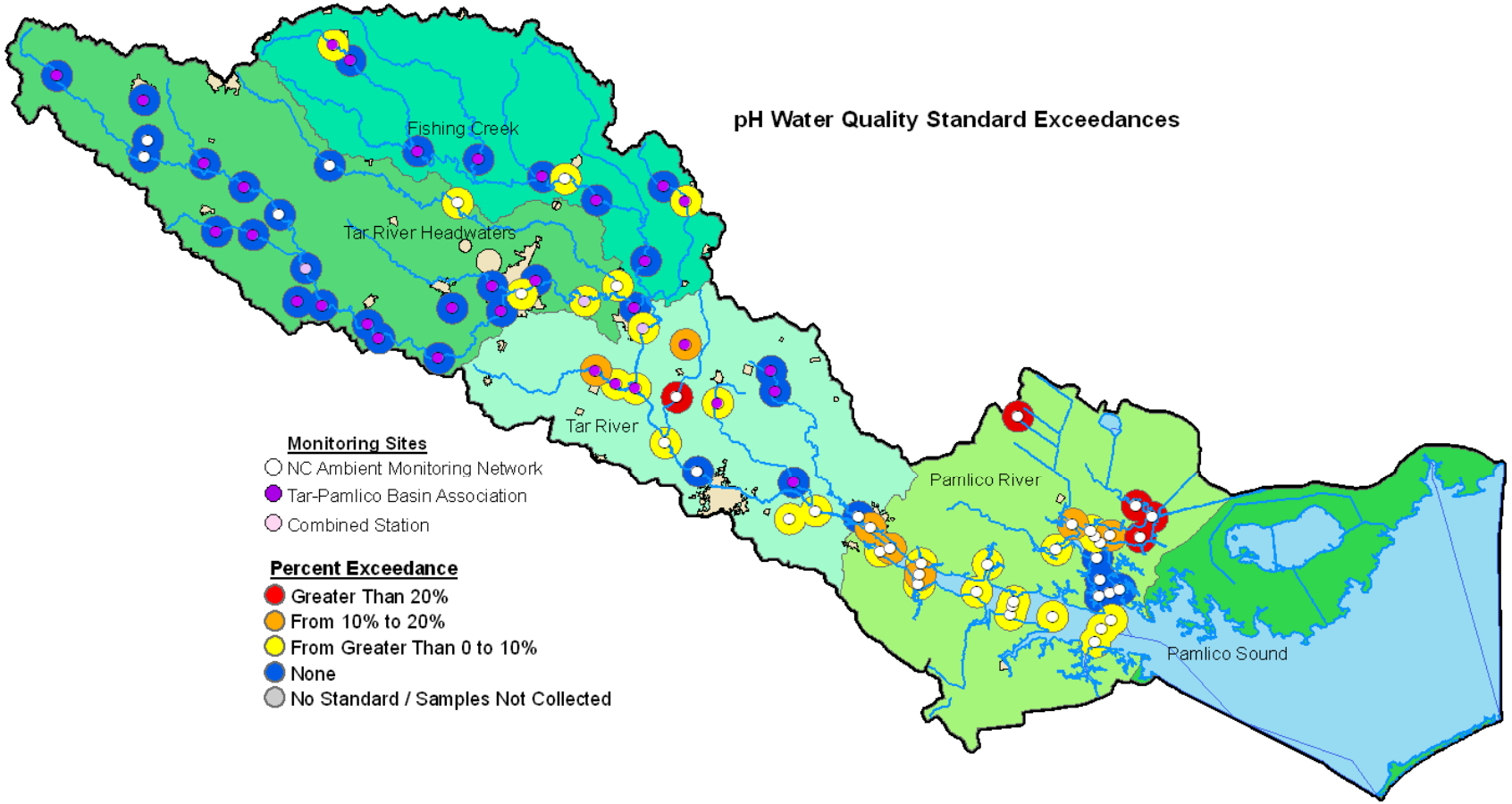


Figure 12. pH in the Tar-Pamlico River Basin

The evaluation level for pH displayed on this map is 6.0 for freshwaters, 4.3 for swamp waters, and 6.8 for saltwaters. Several stations located on the Pungo river show problems with pH. This area drains many swamps and agricultural ditches, which may be related to the exceedances.

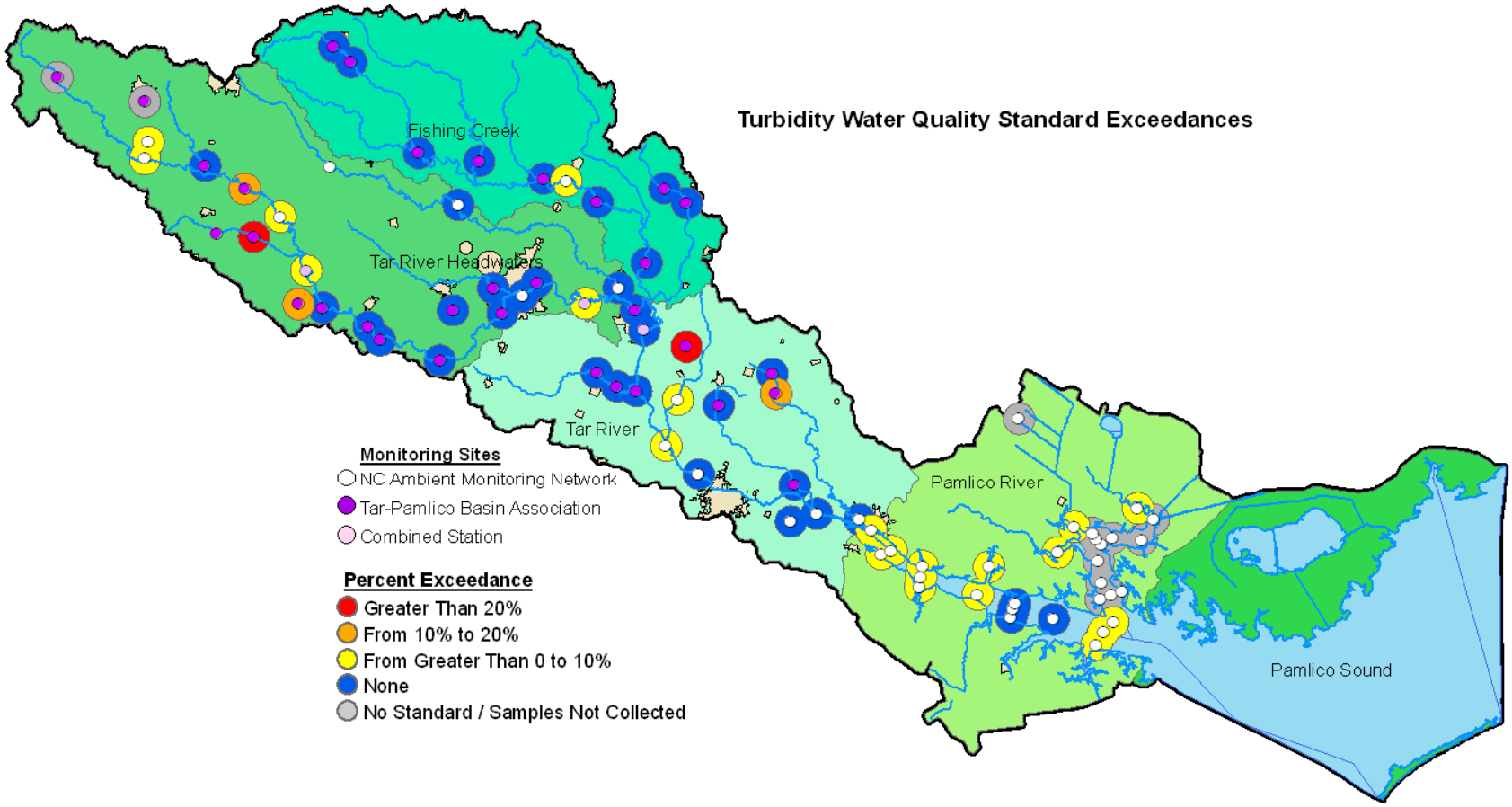


Figure 13. Turbidity in the Tar-Pamlico River Basin

The evaluation level for turbidity concentrations displayed on this map is 50 NTU for freshwaters and 25 NTU for saltwater. Turbidity issues appear to be scattered over the entire basin.

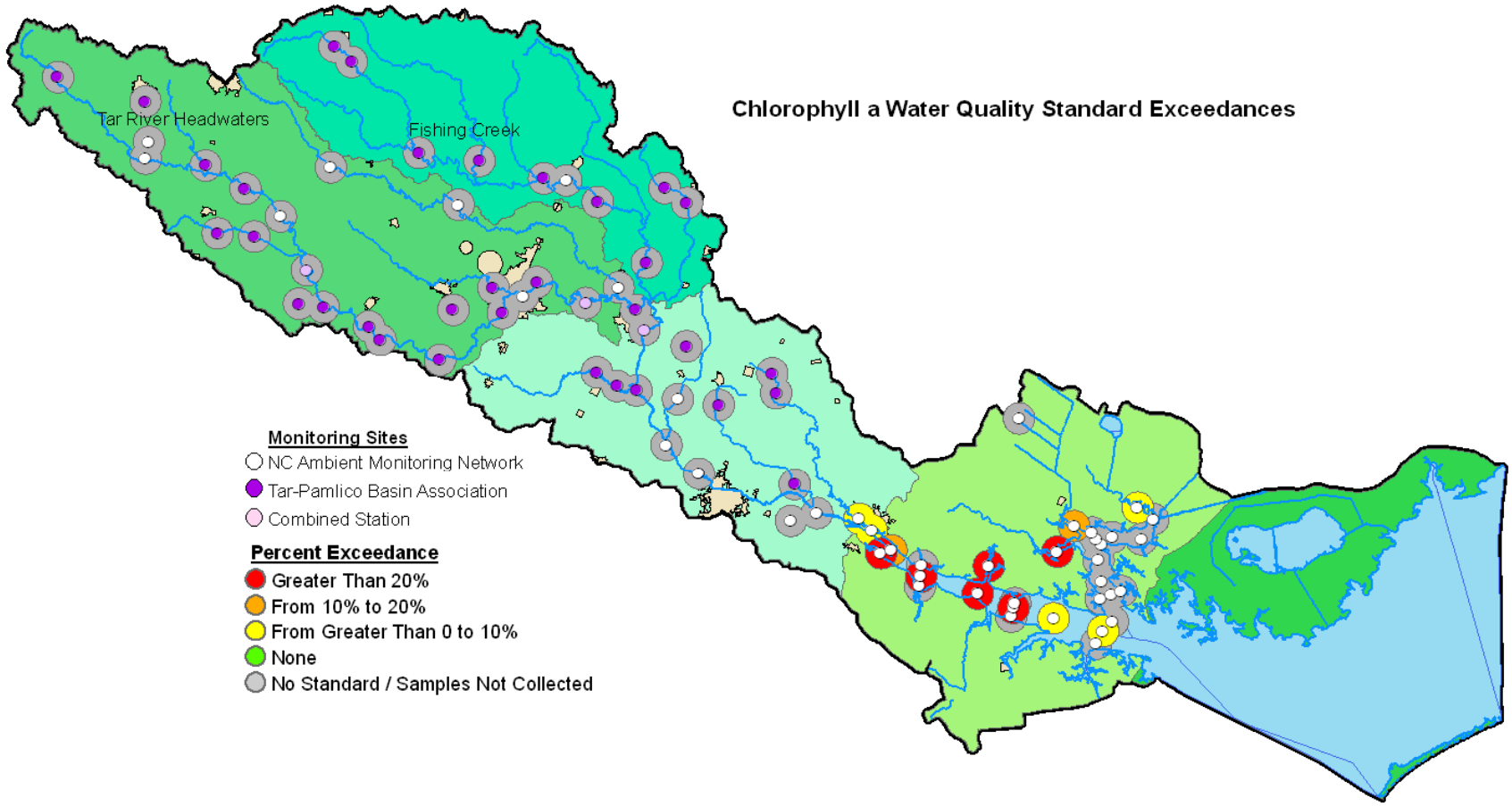


Figure 14. Chlorophyll a in the Tar-Pamlico River Basin

The evaluation level for chlorophyll a concentrations displayed on this map is 40 ug/L. Chlorophyll a samples are not collected in the majority of the basin, only in the lower portion. There are substantial concentrations of chlorophyll a in the Pamlico River.

Appendix A: Station Summary Sheets

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT US 158 NR BEREA
Station #: O0057000 **Hydrologic Unit Code:** 3020101
Latitude: 36.33412 **Longitude:** -78.76803 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(1)

Time period: 03/07/2007 to 08/30/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	10	0	<4	3	30	98.7	3	3	3.6	5.9	7.9	13.4	13.8
	10	0	<5	4	40	99.8	3	3	3.6	5.9	7.9	13.4	13.8
pH (SU)	10	0	<6	0	0		6.5	6.5	6.6	6.7	6.8	7	7
	10	0	>9	0	0		6.5	6.5	6.6	6.7	6.8	7	7
Spec. conductance (umhos/cm at 25°C)	10	0	N/A				59	60	72	86	106	150	153
Water Temperature (°C)	10	0	>32	0	0		8.7	9.5	17.7	21.7	23.8	24	24
Other													
TSS (mg/L)	6	0	N/A				3.4	3.4	3.9	8	47.2	108	108
Turbidity (NTU)	6	0	>50	0	0		6.9	6.9	7.2	9.8	13.2	14	14
Nutrients (mg/L)													
NH3 as N	6	2	N/A				0.01	0.01	0.01	0.04	0.08	0.14	0.14
NO2 + NO3 as N	6	1	>10	0	0		0.01	0.01	0.02	0.05	0.09	0.13	0.13
TKN as N	6	0	N/A				0.25	0.25	0.29	0.32	0.63	1.33	1.33
Total Phosphorus	6	0	N/A				0.04	0.04	0.05	0.06	0.1	0.11	0.11
Metals (ug/L)													
Arsenic, total (As)	6	6	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	6	6	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	6	6	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	6	5	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	6	0	>1000	4	66.7		876	876	877	1102	1290	1571	1571
Lead, total (Pb)	6	6	>25	0	0		5	5	5	5	5	5	5
Manganese, total (Mn)	6	0	>200	2	33.3		25	25	44	117	1075	2701	2701
Mercury, total (Hg)	6	6	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	6	6	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	6	5	>50	0	0		10	10	10	10	10	10	10

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
6	50	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 96 NR TAR RIVER
Station #: O0100000 **Hydrologic Unit Code:** 3020101
Latitude: 36.19472 **Longitude:** -78.58292 **Stream class:** WS-V NSW
Agency: NCAMBNT **NC stream index:** 28-(5.7)

Time period: 01/09/2003 to 11/07/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	53	0	<4	1	1.9		3.8	4.8	5.8	7.1	10.3	12.6	17.6
	53	0	<5	7	13.2	84.4	3.8	4.8	5.8	7.1	10.3	12.6	17.6
pH (SU)	55	0	<6	0	0		6	6.2	6.4	6.7	6.9	7.2	7.4
	55	0	>9	0	0		6	6.2	6.4	6.7	6.9	7.2	7.4
Salinity (ppt)	24	0	N/A				0	0	0	0	0	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				46	58	71	81	91	104	108
Water Temperature (°C)	55	0	>32	0	0		2.6	4.9	9.1	16.9	23.1	24.9	28
Other													
TSS (mg/L)	19	3	N/A				2.5	2.8	4	6.2	35	49	59
Turbidity (NTU)	55	0	>50	2	3.6		1.7	5	7.8	10	17	45	65
Nutrients (mg/L)													
NH3 as N	50	15	N/A				0.02	0.02	0.02	0.02	0.04	0.06	0.3
NO2 + NO3 as N	50	10	>10	0	0		0.02	0.02	0.04	0.08	0.12	0.16	0.31
TKN as N	50	0	N/A				0.23	0.29	0.35	0.45	0.57	0.77	1
Total Phosphorus	50	0	N/A				0.02	0.04	0.04	0.05	0.08	0.15	0.57
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				64	65	200	390	985	2460	3100
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	9	>7	0	0		2	2	2	2	3	4	5
Iron, total (Fe)	17	0	>1000	15	88.2	100	210	250	1350	1700	2250	3020	3100
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Manganese, total (Mn)	17	0	>200	6	35.3	99.9	25	42	86	120	255	342	430
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	16	12	>50	0	0		10	10	10	10	11	14	15

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	90	6	11	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1649 NEW COMMERCE DR AT OXFORD
Station #: O0310000 **Hydrologic Unit Code:** 3020101
Latitude: 36.29210 **Longitude:** -78.58294 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-11

Time period: 03/07/2007 to 11/08/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	14	0	<4	3	21.4	95.6	3.1	3.2	4.3	6.5	7.7	12.1	14.6
	14	0	<5	4	28.6	99.1	3.1	3.2	4.3	6.5	7.7	12.1	14.6
pH (SU)	14	0	<6	0	0		6.5	6.5	6.7	7	7.1	7.2	7.3
	14	0	>9	0	0		6.5	6.5	6.7	7	7.1	7.2	7.3
Spec. conductance (umhos/cm at 25°C)	14	0	N/A				81	94	181	231	255	312	360
Water Temperature (°C)	14	0	>32	0	0		6.7	7.8	15.8	19.1	21.5	23	23.2
Other													
Turbidity (NTU)	9	0	>50	1	11.1		3.1	3.1	6	14	29.5	80	80
Nutrients (mg/L)													
NH3 as N	9	4	N/A				0.01	0.01	0.01	0.04	0.06	0.12	0.12
NO2 + NO3 as N	9	0	N/A				0.15	0.15	0.33	0.37	0.49	0.51	0.51
TKN as N	9	0	N/A				0.23	0.23	0.41	0.51	0.58	1.01	1.01
Total Phosphorus	9	0	N/A				0.05	0.05	0.08	0.1	0.13	0.17	0.17

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
9	327	4	44	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1643 NR CLAY
Station #: O0600000 **Hydrologic Unit Code:** 3020101
Latitude: 36.22317 **Longitude:** -78.57568 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-11

Time period: 01/09/2003 to 11/07/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	53	0	<4	0	0		5.6	6.4	7.1	8.6	11.8	12.9	17.3
	53	0	<5	0	0		5.6	6.4	7.1	8.6	11.8	12.9	17.3
pH (SU)	55	0	<6	0	0		6.3	6.4	6.6	6.9	7.2	7.3	7.6
	55	0	>9	0	0		6.3	6.4	6.6	6.9	7.2	7.3	7.6
Salinity (ppt)	25	0	N/A				0	0.1	0.1	0.1	0.1	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				79	103	132	171	205	324	479
Water Temperature (°C)	55	0	>32	0	0		1.9	4.6	9	16.4	21.4	23.9	25.1
Other													
TSS (mg/L)	19	4	N/A				2.5	2.5	4.5	8	34	61	150
Turbidity (NTU)	55	1	>50	5	9.1		1	3.7	5	8.5	15	53	85
Nutrients (mg/L)													
NH3 as N	45	22	N/A				0.02	0.02	0.02	0.02	0.04	0.06	0.2
NO2 + NO3 as N	45	1	N/A				0.02	0.11	0.18	0.31	0.52	0.78	1.3
TKN as N	45	0	N/A				0.28	0.36	0.38	0.48	0.62	0.78	1.9
Total Phosphorus	45	0	N/A				0.02	0.04	0.05	0.07	0.11	0.21	0.48
Metals (ug/L)													
Aluminum, total (Al)	17	1	N/A				50	78	145	570	2100	2920	3000
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	4	>7	2	11.8	76.2	2	2	2	2	5	8	9
Iron, total (Fe)	17	0	>1000	10	58.8	100	170	458	825	1100	2850	3360	4800
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	1	>50	2	11.8	76.2	10	12	17	27	38	70	140

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	148	12	22	70.2

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1003 SIMS BRIDGE RD NR LOUISBURG
Station #: O1025000 **Hydrologic Unit Code:** 3020101
Latitude: 36.14222 **Longitude:** -78.37218 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(15.5)

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		5.7	5.7	6	6.9	8.5	12.4	13
	15	0	<5	0	0		5.7	5.7	6	6.9	8.5	12.4	13
pH (SU)	15	0	<6	0	0		6.6	6.7	6.8	6.9	7.1	7.2	7.3
	15	0	>9	0	0		6.6	6.7	6.8	6.9	7.1	7.2	7.3
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				78	80	93	107	120	145	155
Water Temperature (°C)	15	0	>32	0	0		2.9	5.7	18.1	20.7	24.5	25.2	25.9
Other													
TSS (mg/L)	10	0	N/A				3	3.1	5.2	8.9	20.5	118.6	128
Turbidity (NTU)	10	0	>50	1	10	73.6	6.3	6.5	8.7	15.5	22.2	210.5	230
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.02	0.06	0.11	0.11
NO2 + NO3 as N	10	0	>10	0	0		0.06	0.06	0.07	0.11	0.17	0.31	0.32
TKN as N	10	0	N/A				0.22	0.23	0.32	0.39	0.56	0.92	0.95
Total Phosphorus	10	0	N/A				0.04	0.04	0.06	0.07	0.11	0.2	0.21
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	9	>50	0	0		5	5	5	5	5	9	9
Copper, total (Cu)	10	6	>7	1	10	73.6	2	2	2	2	2	12	13
Iron, total (Fe)	10	0	>1000	10	100	100	1127	1138	1394	1680	2250	8620	9260
Lead, total (Pb)	10	9	>25	0	0		5	5	5	5	5	6	6
Manganese, total (Mn)	10	0	>200	6	60	100	55	58	109	352	578	621	624
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	7	>50	0	0		10	10	10	10	12	21	22

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	152	3	30	87.9

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TABBS CRK AT SR 1100 EGYPT MOUNTAIN RD NR KITTRELL
Station #: O1030000 **Hydrologic Unit Code:** 3020101
Latitude: 36.18229 **Longitude:** -78.45562 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-17-(0.5)

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	2	13.3	81.6	2.6	2.7	4.5	6.1	8.5	12.5	12.7
	15	0	<5	4	26.7	98.7	2.6	2.7	4.5	6.1	8.5	12.5	12.7
pH (SU)	15	0	<6	0	0		6.2	6.3	6.7	6.9	7.1	7.1	7.2
	15	0	>9	0	0		6.2	6.3	6.7	6.9	7.1	7.1	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				86	91	104	111	118	137	142
Water Temperature (°C)	15	0	>32	0	0		2	4.5	16.3	19	23.3	23.9	24
Other													
TSS (mg/L)	10	0	N/A				5.1	5.2	5.9	8.2	18.2	49	52
Turbidity (NTU)	10	0	>50	0	0		7.1	7.3	9.2	13.5	22.2	38.3	40
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.04	0.1	0.12	0.12
NO2 + NO3 as N	10	0	N/A				0.03	0.03	0.08	0.13	0.19	0.33	0.35
TKN as N	10	0	N/A				0.26	0.26	0.34	0.53	0.72	2.66	2.87
Total Phosphorus	10	0	N/A				0.05	0.05	0.07	0.08	0.09	0.13	0.13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	172	3	30	87.9

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT US 401 AT LOUISBURG
Station #: O1100000 **Hydrologic Unit Code:** 3020101
Latitude: 36.09438 **Longitude:** -78.29766 **Stream class:** WS-V NSW
Agency: NCAMBNT **NC stream index:** 28-(24.7)

Time period: 01/27/2003 to 11/14/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	53	0	<4	0	0		5	5.5	6.5	7.8	10.4	11.9	14.3
	53	0	<5	0	0		5	5.5	6.5	7.8	10.4	11.9	14.3
pH (SU)	54	0	<6	0	0		6	6.2	6.5	6.8	7.1	7.2	7.7
	54	0	>9	0	0		6	6.2	6.5	6.8	7.1	7.2	7.7
Salinity (ppt)	25	0	N/A				0	0	0	0	0.1	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				53	67	80	88	103	111	155
Water Temperature (°C)	54	0	>32	0	0		0.8	5.3	8.5	18.1	23.1	26.6	28.9
Other													
TSS (mg/L)	19	1	N/A				2.8	5	6.2	10	31	50	100
Turbidity (NTU)	54	0	>50	2	3.7		4.9	7.6	9.4	13	20.5	39.5	120
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				100	124	280	580	1450	4280	11000
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	10	>7	1	5.9		2	2	2	2	3	8	20
Iron, total (Fe)	17	0	>1000	17	100	100	1100	1260	1600	1800	2500	8400	22000
Lead, total (Pb)	17	16	>25	0	0		10	10	10	10	10	12	21
Manganese, total (Mn)	17	0	>200	8	47.1	100	46	56	102	190	365	804	1900
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	16	>25	0	0		10	10	10	10	10	10	11
Zinc, total (Zn)	17	14	>50	1	5.9		10	10	10	10	10	24	59

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
54	91	6	11	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CEDAR CRK AT SR 1116 CEDAR CREEK RD NR FRANKLINTON
Station #: O1600000 **Hydrologic Unit Code:** 3020101
Latitude: 36.06615 **Longitude:** -78.43130 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-29-(2)

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		6.4	6.4	6.7	7.6	9	12.3	13.1
	15	0	<5	0	0		6.4	6.4	6.7	7.6	9	12.3	13.1
pH (SU)	15	0	<6	0	0		6.4	6.6	6.9	7.1	7.2	7.2	7.3
	15	0	>9	0	0		6.4	6.6	6.9	7.1	7.2	7.2	7.3
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				64	65	76	80	91	94	95
Water Temperature (°C)	15	0	>32	0	0		4.9	7.7	18.6	21	24.8	25.3	25.3
Other													
Turbidity (NTU)	10	0	>50	0	0		7.3	7.4	10.4	12.5	17.8	22.7	23
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.03	0.06	0.07	0.07
NO2 + NO3 as N	10	0	N/A				0.03	0.03	0.05	0.11	0.18	0.3	0.31
TKN as N	10	1	N/A				0.2	0.21	0.27	0.35	0.56	1.45	1.54
Total Phosphorus	10	0	N/A				0.04	0.04	0.06	0.07	0.08	0.11	0.11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	111	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CEDAR CRK AT SR 1109 TIMBERLAKE RD NR LOUISBURG
Station #: O1920000 **Hydrologic Unit Code:** 3020101
Latitude: 36.06024 **Longitude:** -78.35373 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-29-(2)

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL				Min	10th	25th	50th	75th	90th	Max
			EL	#	%	%Conf	Percentiles						
Field													
D.O. (mg/L)	15	0	<4	0	0		6.4	6.5	6.7	7.5	8.5	12.1	13.1
	15	0	<5	0	0		6.4	6.5	6.7	7.5	8.5	12.1	13.1
pH (SU)	15	0	<6	0	0		6.7	6.8	6.9	7	7.2	7.3	7.3
	15	0	>9	0	0		6.7	6.8	6.9	7	7.2	7.3	7.3
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				130	131	160	283	430	493	516
Water Temperature (°C)	15	0	>32	0	0		4.1	6.8	18	20.2	24.2	24.8	24.8
Other													
Turbidity (NTU)	10	0	>50	2	20	93	9.5	9.6	11	23	57.5	107	110
Nutrients (mg/L)													
NH3 as N	10	2	N/A				0.01	0.01	0.02	0.04	0.07	0.13	0.13
NO2 + NO3 as N	10	0	N/A				0.51	0.51	0.6	0.68	0.97	0.97	0.97
TKN as N	10	0	N/A				0.39	0.4	0.56	0.74	0.89	1.32	1.36
Total Phosphorus	10	0	N/A				0.05	0.05	0.07	0.08	0.11	0.15	0.15

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	237	3	30	87.9

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1001 NR BUNN
Station #: O2000000 **Hydrologic Unit Code:** 3020101
Latitude: 36.00228 **Longitude:** -78.24334 **Stream class:** WS-V NSW
Agency: NCAMBNT **NC stream index:** 28-(24.7)

Time period: 01/27/2003 to 11/14/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	52	0	<4	0	0		4.6	5.4	6.1	7.5	10.4	11.8	14
	52	0	<5	3	5.8		4.6	5.4	6.1	7.5	10.4	11.8	14
pH (SU)	53	0	<6	0	0		6.1	6.3	6.5	6.8	7	7.2	8.1
	53	0	>9	0	0		6.1	6.3	6.5	6.8	7	7.2	8.1
Salinity (ppt)	25	0	N/A				0	0	0	0	0.1	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	53	0	N/A				61	71	86	94	103	126	140
Water Temperature (°C)	53	0	>32	0	0		1.1	6.3	9	18.7	23.2	26.9	28.6
Other													
TSS (mg/L)	19	1	N/A				4.5	5	7.2	12	38	54	58
Turbidity (NTU)	54	0	>50	1	1.9		6.6	9.1	11	15	20	37.5	70
Metals (ug/L)													
Aluminum, total (Al)	16	0	N/A				210	217	255	535	1250	1950	2300
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	11	>7	0	0		2	2	2	2	3	4	4
Iron, total (Fe)	17	0	>1000	17	100	100	1100	1180	1500	1800	2450	3120	4400
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Manganese, total (Mn)	17	0	>200	9	52.9	100	53	65	99	230	260	366	470
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	15	>50	0	0		10	10	10	10	10	12	14

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
54	86	4	7	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1001 NR BUNN
Station #: O2000000 **Hydrologic Unit Code:** 3020101
Latitude: 36.00228 **Longitude:** -78.24334 **Stream class:** WS-V NSW
Agency: TPBA **NC stream index:** 28-(24.7)

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.2	4.5	5.1	5.8	8.4	12.2	12.9
	15	0	<5	3	20	94.4	4.2	4.5	5.1	5.8	8.4	12.2	12.9
pH (SU)	15	0	<6	0	0		6.8	6.8	6.9	7	7.2	7.3	7.4
	15	0	>9	0	0		6.8	6.8	6.9	7	7.2	7.3	7.4
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				73	77	93	117	137	150	161
Water Temperature (°C)	15	0	>32	0	0		3.5	6.7	18.2	22	25.7	26.7	26.9
Other													
Turbidity (NTU)	10	0	>50	0	0		8.8	9	11.8	15.5	29	43.7	45
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.03	0.08	0.11	0.11
NO2 + NO3 as N	10	0	>10	0	0		0.07	0.07	0.11	0.16	0.21	0.25	0.25
TKN as N	10	2	N/A				0.2	0.2	0.2	0.47	0.59	0.68	0.68
Total Phosphorus	10	0	N/A				0.05	0.05	0.06	0.06	0.1	0.12	0.12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	118	2	20	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CROOKED CRK AT SR 1719 BUNN ELEMENTARY SCHOOL RD NR BUNN
Station #: O2015000 **Hydrologic Unit Code:** 3020101
Latitude: 35.94504 **Longitude:** -78.26054 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-30

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL				Min	10th	25th	50th	75th	90th	Max
			EL	#	%	%Conf	Percentiles						
Field													
D.O. (mg/L)	15	0	<4	9	60	100	0.2	0.3	0.8	1.7	6.6	10.1	10.9
	15	0	<5	11	73.3	100	0.2	0.3	0.8	1.7	6.6	10.1	10.9
pH (SU)	15	0	<6	0	0		6.4	6.4	6.4	6.5	6.6	6.9	7.2
	15	0	>9	0	0		6.4	6.4	6.4	6.5	6.6	6.9	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				53	55	66	104	122	134	145
Water Temperature (°C)	15	0	>32	0	0		4.4	7	18.6	22.1	24.9	25.9	27
Other													
Turbidity (NTU)	10	0	>50	1	10	73.6	3.8	3.8	4.2	9.7	29.2	50.4	52
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.02	0.09	0.22	0.23
NO2 + NO3 as N	10	10	N/A				0.01	0.01	0.01	0.01	0.01	0.01	0.01
TKN as N	10	0	N/A				0.42	0.42	0.47	0.61	0.77	1.17	1.21
Total Phosphorus	10	0	N/A				0.05	0.05	0.06	0.09	0.15	0.24	0.25

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	141	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CROOKED CRK AT NC 98 NR BUNN
Station #: O2020000 **Hydrologic Unit Code:** 3020101
Latitude: 35.93863 **Longitude:** -78.20892 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-30

Time period: 03/07/2007 to 12/20/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	8	53.3	100	1.2	1.4	2.2	3.4	7.1	11.4	11.8
	15	0	<5	9	60	100	1.2	1.4	2.2	3.4	7.1	11.4	11.8
pH (SU)	15	0	<6	0	0		6.5	6.6	6.7	6.8	6.9	6.9	7
	15	0	>9	0	0		6.5	6.6	6.7	6.8	6.9	6.9	7
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				55	59	70	99	150	186	190
Water Temperature (°C)	15	0	>32	0	0		4.2	7.4	18.5	22.7	25.9	27.2	27.8
Other													
Turbidity (NTU)	10	0	>50	0	0		5.9	6	7.1	14.5	17.5	46.9	50
Nutrients (mg/L)													
NH3 as N	10	2	N/A				0.01	0.01	0.02	0.03	0.06	0.08	0.08
NO2 + NO3 as N	10	6	N/A				0.01	0.01	0.01	0.01	0.02	0.09	0.1
TKN as N	10	0	N/A				0.27	0.28	0.47	0.71	1.01	1.26	1.28
Total Phosphorus	10	0	N/A				0.06	0.06	0.07	0.07	0.11	0.16	0.16

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	39	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1145 OLD SPRING HOPE RD NR SPRING HOPE
Station #: O2101000 **Hydrologic Unit Code:** 3020101
Latitude: 35.90506 **Longitude:** -78.11319 **Stream class:** WS-V NSW
Agency: TPBA **NC stream index:** 28-(24.7)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	2	13.3	81.6	3.5	3.7	4.6	6.6	9.4	11.8	12.3
	15	0	<5	5	33.3	99.8	3.5	3.7	4.6	6.6	9.4	11.8	12.3
pH (SU)	15	0	<6	0	0		6.2	6.3	6.6	6.7	6.8	6.9	6.9
	15	0	>9	0	0		6.2	6.3	6.6	6.7	6.8	6.9	6.9
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				65	73	89	113	133	142	145
Water Temperature (°C)	15	0	>32	0	0		4.9	6.5	14.4	21.1	26.2	27.1	27.2
Other													
Turbidity (NTU)	10	0	>50	0	0		5.9	5.9	6.4	12.5	23.2	28.5	29
Nutrients (mg/L)													
NH3 as N	10	1	N/A				0.01	0.01	0.02	0.07	0.13	0.19	0.2
NO2 + NO3 as N	10	0	>10	0	0		0.02	0.02	0.04	0.08	0.15	0.27	0.28
TKN as N	10	1	N/A				0.2	0.2	0.21	0.27	0.45	0.79	0.83
Total Phosphorus	10	0	N/A				0.05	0.05	0.08	0.11	0.13	0.15	0.15

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	34	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 581 NR STANHOPE
Station #: O2102000 **Hydrologic Unit Code:** 3020101
Latitude: 35.88205 **Longitude:** -78.08932 **Stream class:** WS-V NSW
Agency: TPBA **NC stream index:** 28-(24.7)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4	4	4.4	6.2	9.3	12	12.2
	15	0	<5	5	33.3	99.8	4	4	4.4	6.2	9.3	12	12.2
pH (SU)	15	0	<6	0	0		6.5	6.5	6.8	6.9	7	7.1	7.1
	15	0	>9	0	0		6.5	6.5	6.8	6.9	7	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				66	74	89	112	134	148	153
Water Temperature (°C)	15	0	>32	0	0		5	6.3	14.3	21.3	26.4	27.1	27.1
Other													
Turbidity (NTU)	10	0	>50	0	0		3.5	3.6	5.4	13.5	19.2	23.9	24
Nutrients (mg/L)													
NH3 as N	10	1	N/A				0.01	0.01	0.02	0.05	0.13	0.15	0.15
NO2 + NO3 as N	10	0	>10	0	0		0.08	0.08	0.1	0.12	0.18	0.26	0.27
TKN as N	10	0	N/A				0.21	0.22	0.33	0.44	0.57	5.4	5.91
Total Phosphorus	10	0	N/A				0.06	0.06	0.08	0.09	0.11	1.33	1.46

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	24	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1981 TAR RIVER CHURCH RD NR CLIFTONVILLE
Station #: O2140000 **Hydrologic Unit Code:** 3020101
Latitude: 35.84663 **Longitude:** -77.96394 **Stream class:** WS-IV NSW CA
Agency: TPBA **NC stream index:** 28-(35.5)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.1	4.6	5.1	5.9	8.8	10.3	10.8
	15	0	<5	1	6.7		4.1	4.6	5.1	5.9	8.8	10.3	10.8
pH (SU)	15	0	<6	0	0		6.6	6.7	6.9	7	7.1	7.1	7.2
	15	0	>9	0	0		6.6	6.7	6.9	7	7.1	7.1	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				64	74	88	119	126	138	145
Water Temperature (°C)	15	0	>32	0	0		5	7.3	14.5	23.2	27.6	28.5	28.7
Other													
Turbidity (NTU)	10	0	>50	0	0		8.5	9	14	18	21.2	26.5	27
Nutrients (mg/L)													
NH3 as N	10	2	N/A				0.01	0.01	0.01	0.04	0.06	0.11	0.11
NO2 + NO3 as N	10	1	>10	0	0		0.01	0.01	0.02	0.09	0.2	0.28	0.28
TKN as N	10	2	N/A				0.2	0.2	0.26	0.32	0.58	0.66	0.67
Total Phosphorus	10	0	N/A				0.04	0.04	0.08	0.09	0.11	2.9	3.21
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	10	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	10	5	>7	0	0		2	2	2	2	2	4	4
Iron, total (Fe)	10	0	>1000	8	80	100	881	885	1100	1358	1888	2203	2236
Lead, total (Pb)	10	10	>25	0	0		5	5	5	5	5	5	5
Manganese, total (Mn)	10	0	>200	4	40	99.8	50	52	106	155	255	602	635
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	9	>50	0	0		10	10	10	10	10	17	18

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	73	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: SAPONY CRK AT SR 1704 BATCHELOR DR NR NASHVILLE
Station #: O2320000 **Hydrologic Unit Code:** 3020101
Latitude: 35.93201 **Longitude:** -77.93478 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-55-(5.5)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	10	66.7	100	1.6	1.7	2.2	2.5	6.8	7.6	8.2
	15	0	<5	11	73.3	100	1.6	1.7	2.2	2.5	6.8	7.6	8.2
pH (SU)	15	0	<6	0	0		6.2	6.4	6.7	6.8	7	7.1	7.1
	15	0	>9	0	0		6.2	6.4	6.7	6.8	7	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				84	85	103	117	124	199	257
Water Temperature (°C)	15	0	>32	0	0		3.6	6.1	13.3	21.1	25.6	26	26.1
Other													
Turbidity (NTU)	10	0	>50	0	0		4.2	4.2	5.8	8.6	14.8	34.7	36

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	65	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT US 301 BYP AT ROCKY MOUNT
Station #: O2360000 **Hydrologic Unit Code:** 3020101
Latitude: 35.92572 **Longitude:** -77.83067 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(64.5)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	6	40	100	2	2.5	3.6	5.2	9.4	10.6	11.9
	15	0	<5	7	46.7	100	2	2.5	3.6	5.2	9.4	10.6	11.9
pH (SU)	15	0	<6	0	0		6.5	6.6	6.7	6.9	6.9	7	7.1
	15	0	>9	0	0		6.5	6.6	6.7	6.9	6.9	7	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				58	66	81	115	136	145	153
Water Temperature (°C)	15	0	>32	0	0		8.6	9.5	14.6	23.8	28.3	28.8	28.9
Other													
TSS (mg/L)	10	1	N/A				1	1.1	1.8	2.2	5.9	10.6	11
Turbidity (NTU)	10	0	>50	0	0		2.4	2.4	2.5	6.4	17.8	30.8	32
Nutrients (mg/L)													
NH3 as N	10	0	N/A				0.01	0.01	0.03	0.09	0.11	0.25	0.26
NO2 + NO3 as N	10	0	>10	0	0		0.04	0.05	0.11	0.19	0.43	0.66	0.69
TKN as N	10	0	N/A				0.26	0.27	0.46	0.62	1.1	3.01	3.2
Total Phosphorus	10	0	N/A				0.05	0.05	0.06	0.07	0.08	0.36	0.39

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	38	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: STONY CRK AT WINSTEAD AVE NR LITTLE EASONBURG
Station #: O3140000 **Hydrologic Unit Code:** 3020101
Latitude: 35.96880 **Longitude:** -77.84967 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-68

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	4	26.7	98.7	2.5	2.7	3.9	5.6	7.4	9.1	9.2
	15	0	<5	6	40	100	2.5	2.7	3.9	5.6	7.4	9.1	9.2
pH (SU)	15	0	<6	0	0		6.6	6.7	6.8	6.8	7	7	7.1
	15	0	>9	0	0		6.6	6.7	6.8	6.8	7	7	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				78	79	84	108	110	120	121
Water Temperature (°C)	15	0	>32	0	0		5.1	7	14.3	21.5	25.6	26	26.2
Other													
TSS (mg/L)	10	0	N/A				1.3	1.3	2.5	3.6	7.3	16.2	17
Turbidity (NTU)	10	0	>50	0	0		2.9	2.9	3.3	8.8	16.8	19	19
Nutrients (mg/L)													
NH3 as N	10	5	N/A				0.01	0.01	0.01	0.01	0.04	0.11	0.12
NO2 + NO3 as N	10	2	N/A				0.01	0.01	0.07	0.21	0.28	0.49	0.51
TKN as N	10	2	N/A				0.2	0.2	0.43	0.61	0.74	0.8	0.8
Total Phosphorus	10	0	N/A				0.06	0.06	0.07	0.07	0.1	0.12	0.12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	146	3	30	87.9

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 97 AT ROCKY MOUNT
Station #: O3180000 **Hydrologic Unit Code:** 3020101
Latitude: 35.95438 **Longitude:** -77.78740 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-(69)

Time period: 01/29/2003 to 11/28/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	49	0	<4	0	0		4.8	5.5	6.6	8.6	11.7	13.8	14.6
	49	0	<5	1	2		4.8	5.5	6.6	8.6	11.7	13.8	14.6
pH (SU)	55	0	<6	0	0		6	6.3	6.5	6.8	7	7.2	7.4
	55	0	>9	0	0		6	6.3	6.5	6.8	7	7.2	7.4
Salinity (ppt)	26	0	N/A				0	0	0	0	0	0.03	0.1
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				53	66	77	85	93	104	168
Water Temperature (°C)	55	0	>32	1	1.8		2.8	5.3	9.3	17.8	25.8	28.8	32.2
Other													
TSS (mg/L)	19	5	N/A				2.5	2.5	2.5	5	11	27	30
Turbidity (NTU)	55	0	>50	0	0		1.8	3.3	4.6	8.3	16	26.2	50
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				64	82	145	370	640	948	1500
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	13	>7	0	0		2	2	2	2	2	3	4
Iron, total (Fe)	17	0	>1000	14	82.4	100	320	392	1150	1400	1950	2500	2500
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	15	>50	0	0		10	10	10	10	10	11	13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	71	7	13	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1250 SPRINGFIELD RD AT ROCKY MOUNT
Station #: O3189000 **Hydrologic Unit Code:** 3020101
Latitude: 35.97789 **Longitude:** -77.75769 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-(69)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	1	6.7		3.7	4.4	5	6.2	9.7	11.8	12.5
	15	0	<5	2	13.3	81.6	3.7	4.4	5	6.2	9.7	11.8	12.5
pH (SU)	15	0	<6	0	0		6.6	6.7	6.8	7	7.1	7.3	7.3
	15	0	>9	0	0		6.6	6.7	6.8	7	7.1	7.3	7.3
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				64	74	85	119	153	323	454
Water Temperature (°C)	15	0	>32	0	0		7.1	8.3	14.8	22.7	26.9	28.4	28.6
Other													
TSS (mg/L)	10	2	N/A				1	1	1.2	4.2	8.2	13.5	14
Turbidity (NTU)	10	0	>50	0	0		1.7	1.8	2.6	8.1	14.8	27.8	29
Nutrients (mg/L)													
NH3 as N	10	0	N/A				0.02	0.02	0.03	0.04	0.1	0.17	0.17
NO2 + NO3 as N	10	0	N/A				0.07	0.08	0.17	0.23	0.34	0.45	0.45
TKN as N	10	2	N/A				0.2	0.2	0.4	0.59	0.63	0.65	0.65
Total Phosphorus	10	0	N/A				0.05	0.05	0.06	0.08	0.09	0.12	0.12
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	10	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	10	5	>7	0	0		2	2	2	2	3	5	5
Iron, total (Fe)	10	0	>1000	4	40	99.8	209	217	389	722	1492	2108	2155
Lead, total (Pb)	10	10	>25	0	0		5	5	5	5	5	5	5
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	8	>50	0	0		10	10	10	10	10	11	11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	63	2	20	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1252 NR HARTSEASE
Station #: O3600000 **Hydrologic Unit Code:** 3020101
Latitude: 35.94090 **Longitude:** -77.65511 **Stream class:** WS-IV NSW
Agency: NCAMBNT **NC stream index:** 28-(74)

Time period: 03/03/2003 to 11/28/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	46	0	<4	0	0		4.8	5.8	6.7	8.8	11.2	13.3	16.8
	46	0	<5	1	2.2		4.8	5.8	6.7	8.8	11.2	13.3	16.8
pH (SU)	52	0	<6	1	1.9		5.8	6.2	6.4	6.8	7	7.3	8.2
	52	0	>9	0	0		5.8	6.2	6.4	6.8	7	7.3	8.2
Salinity (ppt)	26	0	N/A				0	0	0	0.05	0.1	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	51	0	N/A				56	73	91	104	119	150	397
Water Temperature (°C)	52	0	>32	0	0		3	5.9	9.9	18	25.7	28.1	31.6
Other													
TSS (mg/L)	19	2	N/A				2.5	2.8	2.8	6	9.2	34	52
Turbidity (NTU)	52	1	>50	1	1.9		1	2.8	4.9	7.5	15	29.2	55
Nutrients (mg/L)													
NH3 as N	49	10	N/A				0.02	0.02	0.02	0.03	0.05	0.08	1.6
NO2 + NO3 as N	49	1	>10	0	0		0.02	0.23	0.37	0.48	0.56	0.75	2.4
TKN as N	49	0	N/A				0.29	0.37	0.42	0.5	0.57	0.64	2.2
Total Phosphorus	49	0	N/A				0.04	0.06	0.07	0.11	0.14	0.22	0.37
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				68	118	165	330	930	1100	1100
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	7	>7	0	0		2	2	2	2	3	4	4
Iron, total (Fe)	17	0	>1000	12	70.6	100	330	410	1000	1300	1800	2580	2900
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Manganese, total (Mn)	17	0	>200	3	17.6	91.7	44	45	57	91	125	360	360
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	16	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>50	0	0		10	10	10	10	11	15	22

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
52	70	6	12	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1252 NR HARTSEASE
Station #: O3600000 **Hydrologic Unit Code:** 3020101
Latitude: 35.94090 **Longitude:** -77.65511 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(74)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL: EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		5.3	5.5	6	7.1	9.2	12.6	14.1
	15	0	<5	0	0		5.3	5.5	6	7.1	9.2	12.6	14.1
pH (SU)	15	0	<6	0	0		6.6	6.7	6.9	7.2	7.3	7.4	7.4
	15	0	>9	0	0		6.6	6.7	6.9	7.2	7.3	7.4	7.4
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				67	80	109	156	270	301	309
Water Temperature (°C)	15	0	>32	0	0		7	8.6	14.6	23.8	26.8	28	28.4
Other													
TSS (mg/L)	10	1	N/A				1	1.1	2.8	5.3	11.2	17.4	18
Turbidity (NTU)	10	0	>50	0	0		2.3	2.4	3.2	9	20.5	32.2	33
Nutrients (mg/L)													
NH3 as N	10	0	N/A				0.02	0.02	0.03	0.07	0.1	0.16	0.16
NO2 + NO3 as N	10	0	>10	0	0		0.18	0.2	0.43	0.57	1.36	1.73	1.74
TKN as N	10	0	N/A				0.38	0.39	0.52	0.59	0.74	0.99	0.99
Total Phosphorus	10	0	N/A				0.07	0.07	0.08	0.12	0.2	0.37	0.39
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	10	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	10	2	>7	0	0		2	2	2	3	4	6	6
Iron, total (Fe)	10	0	>1000	4	40	99.8	295	299	346	798	1386	2273	2334
Lead, total (Pb)	10	10	>25	0	0		5	5	5	5	5	5	5
Manganese, total (Mn)	10	0	>200	3	30	98.7	48	49	77	146	243	282	286
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	5	>50	0	0		10	10	10	11	24	29	29

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	54	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: SANDY CRK AT SR 1432 NR GUPTON
Station #: O3830000 **Hydrologic Unit Code:** 3020101
Latitude: 36.17785 **Longitude:** -78.19089 **Stream class:** B NSW +
Agency: NCAMBNT **NC stream index:** 28-78-1-(8)

Time period: 01/27/2003 to 11/14/2007

	# results	# ND	Results not meeting EL: EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	53	0	<4	0	0		4.8	5.8	7.1	8.1	10.9	12.2	14.6
	53	0	<5	1	1.9		4.8	5.8	7.1	8.1	10.9	12.2	14.6
pH (SU)	54	0	<6	0	0		6	6.3	6.5	6.8	7	7.2	7.8
	54	0	>9	0	0		6	6.3	6.5	6.8	7	7.2	7.8
Salinity (ppt)	25	0	N/A				0	0	0	0	0	0	0
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				44	58	68	73	81	88	96
Water Temperature (°C)	54	0	>32	0	0		0.5	5.1	9.2	19.1	22.6	26.4	27.6
Other													
TSS (mg/L)	19	5	N/A				2.5	2.5	3	5	6.2	7	8
Turbidity (NTU)	54	0	>50	0	0		2.8	3.1	3.6	4.9	7	9.9	40
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				58	59	72	120	215	476	660
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	17	>7	0	0		2	2	2	2	2	2	2
Iron, total (Fe)	17	0	>1000	14	82.4	100	830	926	1150	1800	1900	2200	2200
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	16	>50	0	0		10	10	10	10	10	12	20

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
54	36	1	2	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: SWIFT CRK AT SR 1310 AT HILLIARDSTON
Station #: O3870000 **Hydrologic Unit Code:** 3020101
Latitude: 36.11175 **Longitude:** -77.92122 **Stream class:** C ORW NSW
Agency: NCAMBNT **NC stream index:** 28-78-(0.5)

Time period: 01/29/2003 to 11/28/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	50	0	<4	0	0		4.8	5.5	6.5	8.8	11.1	13.2	17.5
	50	0	<5	1	2		4.8	5.5	6.5	8.8	11.1	13.2	17.5
pH (SU)	55	0	<6	1	1.8		5.6	6.2	6.3	6.7	6.9	7.2	7.7
	55	0	>9	0	0		5.6	6.2	6.3	6.7	6.9	7.2	7.7
Salinity (ppt)	26	0	N/A				0	0	0	0	0	0	0
Spec. conductance (umhos/cm at 25°C)	55	0	N/A				45	55	66	71	76	83	100
Water Temperature (°C)	55	0	>32	0	0		0	3.5	8	14.3	22.4	24.3	26
Other													
TSS (mg/L)	19	4	N/A				2.5	3.5	4	6	14	19	91
Turbidity (NTU)	55	0	>50	0	0		2.6	3.8	4.5	6.6	11	18.4	50
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				75	87	150	210	405	740	1500
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	13	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	17	0	>1000	15	88.2	100	880	976	1100	1800	2250	3000	3400
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	15	>50	0	0		10	10	10	10	10	11	13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	104	6	11	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: SWIFT CRK AT SR 1253 NR LEGGETT
Station #: O4000000 **Hydrologic Unit Code:** 3020101
Latitude: 35.96679 **Longitude:** -77.58535 **Stream class:** WS-IV NSW
Agency: NCAMBNT **NC stream index:** 28-78-(6.5)

Time period: 03/24/2004 to 11/28/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	35	0	<4	0	0		5	5.5	6	8.1	9.7	12.4	14.6
	35	0	<5	0	0		5	5.5	6	8.1	9.7	12.4	14.6
pH (SU)	40	0	<6	1	2.5		5.5	6.1	6.3	6.6	7	7.2	7.5
	40	0	>9	0	0		5.5	6.1	6.3	6.6	7	7.2	7.5
Salinity (ppt)	18	0	N/A				0	0	0	0	0	0	0
Spec. conductance (umhos/cm at 25°C)	39	0	N/A				51	69	77	86	93	104	173
Water Temperature (°C)	40	0	>32	0	0		0.8	4.6	10.1	15.5	24.4	26.2	28.3
Other													
TSS (mg/L)	13	5	N/A				2.5	2.5	2.8	4	5.5	14.5	20
Turbidity (NTU)	40	0	>50	0	0		2.5	2.9	3.6	5.1	6.9	11.9	40
Metals (ug/L)													
Aluminum, total (Al)	11	0	N/A				80	83	100	130	200	418	430
Arsenic, total (As)	11	11	>10	0	0		5	5	5	5	5	10	10
Cadmium, total (Cd)	11	11	>2	0	0		1	1	2	2	2	2	2
Chromium, total (Cr)	11	11	>50	0	0		10	13	25	25	25	25	25
Copper, total (Cu)	11	10	>7	0	0		2	2	2	2	2	4	5
Iron, total (Fe)	11	0	>1000	8	72.7	100	750	766	930	1500	2000	2900	3100
Lead, total (Pb)	11	11	>25	0	0		10	10	10	10	10	10	10
Manganese, total (Mn)	10	0	>200	1	10	73.6	26	28	54	88	170	269	280
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	11	11	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	11	11	>50	0	0		10	10	10	10	10	10	10

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
40	76	5	12	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
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%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 33 NR TARBORO
Station #: O4100000 **Hydrologic Unit Code:** 3020101
Latitude: 35.92844 **Longitude:** -77.54984 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(74)

Time period: 03/13/2007 to 12/19/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		5.5	5.6	5.6	7.1	8.5	12.6	12.7
	15	0	<5	0	0		5.5	5.6	5.6	7.1	8.5	12.6	12.7
pH (SU)	15	0	<6	0	0		6.5	6.6	6.8	7.2	7.3	7.4	7.5
	15	0	>9	0	0		6.5	6.6	6.8	7.2	7.3	7.4	7.5
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				67	78	103	157	243	300	360
Water Temperature (°C)	15	0	>32	0	0		6	7.6	14.7	23.4	26.9	28.2	28.4
Other													
Turbidity (NTU)	10	0	>50	0	0		2.1	2.2	3.9	12.8	25.5	36.3	37
Nutrients (mg/L)													
NH3 as N	10	2	N/A				0.01	0.01	0.02	0.03	0.08	0.12	0.12
NO2 + NO3 as N	10	0	>10	0	0		0.13	0.15	0.37	0.47	0.93	1.31	1.34
TKN as N	10	1	N/A				0.2	0.22	0.46	0.5	0.67	0.68	0.68
Total Phosphorus	10	0	N/A				0.07	0.07	0.08	0.11	0.2	0.25	0.25

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	60	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1001 DR KING BLVD NR WARRENTON
Station #: O4300000 **Hydrologic Unit Code:** 3020102
Latitude: 36.38402 **Longitude:** -78.18135 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-(1)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	4	26.7	98.7	1.4	1.6	3.3	5.9	7.7	9	9.9
	15	0	<5	6	40	100	1.4	1.6	3.3	5.9	7.7	9	9.9
pH (SU)	15	0	<6	1	6.7		5.9	6	6.1	6.5	6.6	6.8	6.8
	15	0	>9	0	0		5.9	6	6.1	6.5	6.6	6.8	6.8
Spec. conductance (umhos/cm at 25°C)	15	1	N/A				50	59	71	81	104	117	117
Water Temperature (°C)	15	0	>32	0	0		5.7	7.7	13	20	22.3	24.5	25.5
Other													
Turbidity (NTU)	10	0	>50	0	0		5.8	6.1	9.3	9.7	14.8	37.4	39
Nutrients (mg/L)													
NH3 as N	10	6	N/A				0.01	0.01	0.01	0.01	0.04	0.06	0.06
NO2 + NO3 as N	10	6	N/A				0.01	0.01	0.01	0.01	0.07	0.12	0.13
TKN as N	10	1	N/A				0.2	0.21	0.3	0.49	0.63	1	1.03
Total Phosphorus	10	0	N/A				0.05	0.05	0.07	0.07	0.1	0.57	0.62

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	66	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1600 BALTIMORE RD NR WARRENTON
Station #: O4400500 **Hydrologic Unit Code:** 3020102
Latitude: 36.35735 **Longitude:** -78.14494 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-(1)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.4	4.8	6.2	6.7	8.8	10.5	11
	15	0	<5	1	6.7		4.4	4.8	6.2	6.7	8.8	10.5	11
pH (SU)	15	0	<6	0	0		6.3	6.4	6.5	6.7	6.9	7	7.1
	15	0	>9	0	0		6.3	6.4	6.5	6.7	6.9	7	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				57	68	84	108	135	178	182
Water Temperature (°C)	15	0	>32	0	0		6.4	7.4	13.7	19	23.1	25.6	26.7
Other													
Turbidity (NTU)	10	0	>50	0	0		4	4	6.9	10	12	30	32
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.02	0.05	0.1	0.1
NO2 + NO3 as N	10	0	N/A				0.06	0.06	0.07	0.16	0.7	0.77	0.78
TKN as N	10	0	N/A				0.28	0.29	0.34	0.44	0.66	0.75	0.76
Total Phosphorus	10	0	N/A				0.05	0.05	0.07	0.08	0.12	0.17	0.17

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	62	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT NC 561 NR WOOD
Station #: O4480000 **Hydrologic Unit Code:** 3020102
Latitude: 36.20105 **Longitude:** -78.00401 **Stream class:** WS-V NSW
Agency: TPBA **NC stream index:** 28-79-(21)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	3	20	94.4	1.3	2.7	4.8	6.5	8.2	10.3	10.4
	15	0	<5	4	26.7	98.7	1.3	2.7	4.8	6.5	8.2	10.3	10.4
pH (SU)	15	0	<6	0	0		6.3	6.5	6.8	7	7.1	7.1	7.2
	15	0	>9	0	0		6.3	6.5	6.8	7	7.1	7.1	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				51	64	81	90	109	124	130
Water Temperature (°C)	15	0	>32	0	0		6.8	7.7	14.6	19.2	22.4	25.7	26.6
Other													
TSS (mg/L)	10	0	N/A				1.5	1.6	2.3	7.7	12.5	30.5	32
Turbidity (NTU)	10	0	>50	0	0		5.5	5.5	6.7	9.2	16.2	28.7	30
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.02	0.05	0.31	0.33
NO2 + NO3 as N	10	1	>10	0	0		0.01	0.01	0.04	0.06	0.1	0.17	0.18
TKN as N	10	1	N/A				0.2	0.2	0.31	0.49	0.74	0.79	0.79
Total Phosphorus	10	0	N/A				0.04	0.04	0.05	0.06	0.08	0.13	0.13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	63	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: LITTLE FISHING CRK AT NC 481 NR WHITE OAK
Station #: O4630000 **Hydrologic Unit Code:** 3020102
Latitude: 36.18620 **Longitude:** -77.87601 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-25

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	3	20	94.4	2.8	3.2	4.4	6.3	8.4	9.8	10.3
	15	0	<5	4	26.7	98.7	2.8	3.2	4.4	6.3	8.4	9.8	10.3
pH (SU)	15	0	<6	0	0		6.6	6.6	6.9	6.9	7	7.1	7.1
	15	0	>9	0	0		6.6	6.6	6.9	6.9	7	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				54	67	80	100	114	125	128
Water Temperature (°C)	15	0	>32	0	0		7.1	8.2	13.1	19.5	22.8	26	26.7
Other													
TSS (mg/L)	10	0	N/A				1.1	1.1	1.7	4.1	8.9	12	12
Turbidity (NTU)	10	0	>50	0	0		3.9	3.9	4.5	7.3	10.2	18.2	19
Nutrients (mg/L)													
NH3 as N	10	6	N/A				0.01	0.01	0.01	0.01	0.04	0.07	0.07
NO2 + NO3 as N	10	2	N/A				0.01	0.01	0.03	0.06	0.1	0.19	0.2
TKN as N	10	0	N/A				0.3	0.3	0.32	0.46	0.69	1.34	1.36
Total Phosphorus	10	0	N/A				0.04	0.04	0.04	0.06	0.07	0.11	0.11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	80	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1222 BELLAMY MILL RD NR ENFIELD
Station #: O4670000 **Hydrologic Unit Code:** 3020102
Latitude: 36.15490 **Longitude:** -77.74036 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-79-(25.5)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	14	0	<4	1	7.1		3.7	4.1	4.5	5.8	8.5	10.9	11
	14	0	<5	6	42.9	100	3.7	4.1	4.5	5.8	8.5	10.9	11
pH (SU)	14	0	<6	0	0		6.6	6.7	6.9	7	7	7.1	7.1
	14	0	>9	0	0		6.6	6.7	6.9	7	7	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	14	0	N/A				54	64	81	100	110	121	129
Water Temperature (°C)	14	0	>32	0	0		7.4	7.9	18.1	23.4	26.7	28.7	29.1
Other													
Turbidity (NTU)	9	0	>50	0	0		4.3	4.3	6.1	9.1	16	40	40
Nutrients (mg/L)													
NH3 as N	9	4	N/A				0.01	0.01	0.01	0.03	0.04	0.04	0.04
NO2 + NO3 as N	9	1	>10	0	0		0.01	0.01	0.02	0.09	0.12	0.18	0.18
TKN as N	9	1	N/A				0.2	0.2	0.33	0.45	0.67	0.84	0.84
Total Phosphorus	9	0	N/A				0.04	0.04	0.04	0.06	0.08	0.11	0.11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
9	41	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT US 301 NR ENFIELD
Station #: O4680000 **Hydrologic Unit Code:** 3020102
Latitude: 36.15094 **Longitude:** -77.69267 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-79-(29)

Time period: 01/29/2003 to 11/28/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	50	0	<4	0	0		4.7	5.2	6.3	8.9	11.7	12.9	17.8
	50	0	<5	3	6		4.7	5.2	6.3	8.9	11.7	12.9	17.8
pH (SU)	55	0	<6	1	1.8		5.7	6.2	6.4	6.7	6.9	7.1	7.6
	55	0	>9	0	0		5.7	6.2	6.4	6.7	6.9	7.1	7.6
Salinity (ppt)	27	0	N/A				0	0	0	0	0	0	0
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				30	58	70	78	89	96	120
Water Temperature (°C)	55	0	>32	0	0		0	3.5	7.4	15.1	23.8	25.8	26.8
Other													
TSS (mg/L)	19	1	N/A				2.5	2.8	4	5	6.2	21	54
Turbidity (NTU)	54	0	>50	1	1.9		4.2	4.4	5.4	7.5	11.5	26	55
Nutrients (mg/L)													
NH3 as N	53	19	N/A				0.02	0.02	0.02	0.02	0.04	0.05	0.1
NO2 + NO3 as N	53	1	N/A				0.02	0.03	0.1	0.13	0.18	0.23	0.84
TKN as N	53	2	N/A				0.2	0.23	0.26	0.34	0.42	0.54	0.76
Total Phosphorus	53	0	N/A				0.02	0.03	0.04	0.05	0.08	0.14	0.35
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				70	88	150	230	495	1024	1400
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	14	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	17	0	>1000	16	94.1	100	920	1064	1150	1600	1900	3000	3000
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	16	>50	0	0		10	10	10	10	10	10	11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	58	6	11	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT SR 1109 ETHERIDGE FARM RD NR ENFIELD
Station #: O4690000 **Hydrologic Unit Code:** 3020102
Latitude: 36.11342 **Longitude:** -77.62704 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-(29)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	2	13.3	81.6	3.6	3.8	4.8	6.1	8.1	10.9	11.9
	15	0	<5	4	26.7	98.7	3.6	3.8	4.8	6.1	8.1	10.9	11.9
pH (SU)	15	0	<6	0	0		6.6	6.7	7	7	7.1	7.2	7.2
	15	0	>9	0	0		6.6	6.7	7	7	7.1	7.2	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				54	67	82	103	117	122	124
Water Temperature (°C)	15	0	>32	0	0		8.5	9	15.9	21	25.6	28.6	29.7
Other													
Turbidity (NTU)	10	0	>50	0	0		4.5	4.6	6.6	8.7	10.8	37.3	40
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.02	0.04	0.04	0.04
NO2 + NO3 as N	10	0	N/A				0.01	0.01	0.07	0.11	0.16	0.25	0.25
TKN as N	10	1	N/A				0.2	0.21	0.32	0.48	0.8	1.97	2.08
Total Phosphorus	10	0	N/A				0.04	0.04	0.04	0.05	0.08	0.15	0.15

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	50	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FISHING CRK AT NC 97 NR LAWRENCE
Station #: O4899000 **Hydrologic Unit Code:** 3020102
Latitude: 36.00828 **Longitude:** -77.52518 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-79-(30.5)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.8	5	5.8	6.3	8.5	10.4	11.5
	15	0	<5	1	6.7		4.8	5	5.8	6.3	8.5	10.4	11.5
pH (SU)	15	0	<6	0	0		6.2	6.3	6.8	7	7.1	7.1	7.1
	15	0	>9	0	0		6.2	6.3	6.8	7	7.1	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				66	74	84	109	116	134	134
Water Temperature (°C)	15	0	>32	0	0		9.6	9.6	16.4	21.9	25.7	29	30
Other													
TSS (mg/L)	10	0	N/A				3	3	3.4	6.2	8.1	25.2	27
Turbidity (NTU)	10	0	>50	0	0		4.6	4.7	6.8	8.5	10.5	36.4	39
Nutrients (mg/L)													
NH3 as N	10	6	N/A				0.01	0.01	0.01	0.01	0.06	0.25	0.27
NO2 + NO3 as N	10	1	>10	0	0		0.01	0.01	0.07	0.11	0.2	0.28	0.29
TKN as N	10	0	N/A				0.22	0.22	0.34	0.44	0.53	0.84	0.87
Total Phosphorus	10	0	N/A				0.04	0.04	0.05	0.07	0.1	0.12	0.12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	39	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: DEEP CRK AT SR 1104 NR SCOTLAND NECK
Station #: O4995000 **Hydrologic Unit Code:** 3020102
Latitude: 36.13551 **Longitude:** -77.48517 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-32-(0.5)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	12	80	100	0.2	0.3	0.8	2.1	2.7	6.7	8.6
	15	0	<5	13	86.7	100	0.2	0.3	0.8	2.1	2.7	6.7	8.6
pH (SU)	15	0	<6	0	0		6.3	6.5	6.6	6.6	6.7	6.8	6.9
	15	0	>9	0	0		6.3	6.5	6.6	6.6	6.7	6.8	6.9
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				77	88	102	121	138	152	157
Water Temperature (°C)	15	0	>32	0	0		6.3	8	16.4	21.7	24.4	27	28.1
Other													
Turbidity (NTU)	10	0	>50	0	0		7.8	7.9	10.3	25.5	33.8	39.9	40
Nutrients (mg/L)													
NH3 as N	10	2	N/A				0.01	0.01	0.02	0.07	0.19	0.39	0.39
NO2 + NO3 as N	10	8	N/A				0.01	0.01	0.01	0.01	0.02	0.05	0.05
TKN as N	10	0	N/A				0.73	0.78	1.22	1.95	2.61	3.76	3.88
Total Phosphorus	10	0	N/A				0.12	0.12	0.14	0.19	0.22	0.31	0.32

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	101	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: DEEP CRK AT US 258 NR SCOTLAND NECK
Station #: O5100000 **Hydrologic Unit Code:** 3020102
Latitude: 36.10964 **Longitude:** -77.43827 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-79-32-(0.5)

Time period: 03/19/2007 to 12/10/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	10	66.7	100	0.4	0.6	1.4	3.4	4.2	7	9.6
	15	0	<5	13	86.7	100	0.4	0.6	1.4	3.4	4.2	7	9.6
pH (SU)	15	0	<6	1	6.7		5.9	6	6.3	6.6	6.7	7	7.1
	15	0	>9	0	0		5.9	6	6.3	6.6	6.7	7	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				72	94	133	196	284	309	316
Water Temperature (°C)	15	0	>32	0	0		9	10	13.2	22.6	25.7	27.4	28.5
Other													
Turbidity (NTU)	10	0	>50	0	0		8	8.1	8.9	12	36	44.4	45
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.05	0.2	0.36	0.37
NO2 + NO3 as N	10	7	N/A				0.01	0.01	0.01	0.01	0.04	0.22	0.24
TKN as N	10	0	N/A				0.68	0.71	0.94	1.43	2.08	3.58	3.67
Total Phosphorus	10	0	N/A				0.11	0.11	0.14	0.33	0.55	1.11	1.14

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	143	2	20	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 33 AND US 64 BUS AT TARBORO
Station #: O5250000 **Hydrologic Unit Code:** 3020103
Latitude: 35.89352 **Longitude:** -77.53233 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-(80)

Time period: 01/29/2003 to 11/28/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	50	0	<4	0	0		5.3	5.7	6.9	8.7	10.7	13.1	16.7
	50	0	<5	0	0		5.3	5.7	6.9	8.7	10.7	13.1	16.7
pH (SU)	55	0	<6	1	1.8		5.3	6.2	6.4	6.7	7	7.3	7.9
	55	0	>9	0	0		5.3	6.2	6.4	6.7	7	7.3	7.9
Salinity (ppt)	25	0	N/A				0	0	0	0	0.1	0.1	0.1
Spec. conductance (umhos/cm at 25°C)	55	0	N/A				51	70	85	93	104	122	250
Water Temperature (°C)	55	0	>32	0	0		2	4.5	9.1	16.1	24.2	27.3	29.3
Other													
TSS (mg/L)	19	2	N/A				2.5	3.8	6.2	8	13	40	56
Turbidity (NTU)	55	0	>50	0	0		2.2	4.4	5.9	8.5	16	24	31
Nutrients (mg/L)													
NH3 as N	53	20	N/A				0.02	0.02	0.02	0.02	0.03	0.05	0.07
NO2 + NO3 as N	53	1	N/A				0.02	0.13	0.22	0.31	0.39	0.45	0.6
TKN as N	53	0	N/A				0.24	0.33	0.37	0.45	0.56	0.65	0.71
Total Phosphorus	53	0	N/A				0.04	0.05	0.07	0.09	0.12	0.17	0.41
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				64	141	200	330	750	1240	1400
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	10	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	17	0	>1000	14	82.4	100	690	762	1100	1200	1850	2780	3100
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	14	>50	0	0		10	10	10	10	10	15	18

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
55	58	5	9	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 33 AND US 64 BUS AT TARBORO
Station #: O5250000 **Hydrologic Unit Code:** 3020103
Latitude: 35.89352 **Longitude:** -77.53233 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-(80)

Time period: 04/13/2007 to 12/31/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	14	0	<4	0	0		5	5.2	5.9	6.8	7.6	10	10.2
	14	0	<5	0	0		5	5.2	5.9	6.8	7.6	10	10.2
pH (SU)	14	0	<6	0	0		6.5	6.7	6.9	7	7.1	7.2	7.2
	14	0	>9	0	0		6.5	6.7	6.9	7	7.1	7.2	7.2
Spec. conductance (umhos/cm at 25°C)	14	0	N/A				91	94	116	138	190	239	259
Water Temperature (°C)	14	0	>32	0	0		10.4	11.2	18.9	24.9	26.8	28.2	28.2
Other													
TSS (mg/L)	9	0	N/A				2.1	2.1	3.6	5.1	15.4	29	29
Turbidity (NTU)	9	0	>50	0	0		1.4	1.4	3.8	5.4	17.5	33	33
Nutrients (mg/L)													
NH3 as N	9	2	N/A				0.01	0.01	0.01	0.02	0.07	0.09	0.09
NO2 + NO3 as N	9	0	N/A				0.33	0.33	0.39	0.46	0.66	0.82	0.82
TKN as N	9	2	N/A				0.2	0.2	0.27	0.46	0.49	0.63	0.63
Total Phosphorus	9	0	N/A				0.06	0.06	0.08	0.12	0.13	0.19	0.19
Metals (ug/L)													
Arsenic, total (As)	9	9	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	9	9	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	9	9	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	9	4	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	9	0	>1000	4	44.4		258	258	547	851	1479	1663	1663
Lead, total (Pb)	9	9	>25	0	0		5	5	5	5	5	5	5
Mercury, total (Hg)	9	9	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	9	9	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	9	6	>50	0	0		10	10	10	10	12	34	34

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
9	36	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TOWN CRK AT NC 111 SR 1202 NR WIGGINS CROSSROADS
Station #: O5600000 **Hydrologic Unit Code:** 3020103
Latitude: 35.82238 **Longitude:** -77.63390 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-83

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	8	53.3	100	1.8	1.8	2.5	3.9	4.8	6.6	7.4
	15	0	<5	12	80	100	1.8	1.8	2.5	3.9	4.8	6.6	7.4
pH (SU)	15	0	<6	2	13.3	81.6	5.6	5.8	6.5	6.6	6.8	6.9	6.9
	15	0	>9	0	0		5.6	5.8	6.5	6.6	6.8	6.9	6.9
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				78	86	101	121	127	209	286
Water Temperature (°C)	15	0	>32	0	0		8.5	10.2	15.7	23	25.8	27.1	27.4
Other													
Turbidity (NTU)	10	0	>50	0	0		2.7	2.9	4.6	4.9	6	6.3	6.3

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	52	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TOWN CRK AT US 258 NR COBBS CROSSROADS
Station #: O5990000 **Hydrologic Unit Code:** 3020103
Latitude: 35.79828 **Longitude:** -77.59144 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-83

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	8	53.3	100	1.8	1.9	2.6	3.8	6.3	8.2	9.3
	15	0	<5	9	60	100	1.8	1.9	2.6	3.8	6.3	8.2	9.3
pH (SU)	15	0	<6	1	6.7		5.7	6.2	6.5	6.7	6.8	6.8	6.9
	15	0	>9	0	0		5.7	6.2	6.5	6.7	6.8	6.8	6.9
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				81	86	108	127	147	157	158
Water Temperature (°C)	15	0	>32	0	0		9.4	9.9	15.3	21.4	23.7	25.5	25.7
Other													
Turbidity (NTU)	10	0	>50	0	0		1.8	1.9	3.4	4.2	6.7	10.6	11

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	50	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 42 AT OLD SPARTA
Station #: O6000000 **Hydrologic Unit Code:** 3020103
Latitude: 35.79030 **Longitude:** -77.55067 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-(80)

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.9	5	5.5	6.4	7.9	9.3	9.9
	15	0	<5	1	6.7		4.9	5	5.5	6.4	7.9	9.3	9.9
pH (SU)	15	0	<6	1	6.7		5.8	6.2	6.6	6.9	7	7.1	7.1
	15	0	>9	0	0		5.8	6.2	6.6	6.9	7	7.1	7.1
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				77	86	116	135	193	259	288
Water Temperature (°C)	15	0	>32	0	0		9.9	10.3	14.8	24.1	25.7	27.5	27.5
Other													
TSS (mg/L)	10	0	N/A				3.5	3.5	3.9	7.9	16.8	49.9	53
Turbidity (NTU)	10	0	>50	0	0		3	3	4.4	5.7	13.8	21.4	22
Nutrients (mg/L)													
NH3 as N	10	3	N/A				0.01	0.01	0.01	0.02	0.08	0.2	0.21
NO2 + NO3 as N	10	0	N/A				0.27	0.27	0.38	0.52	0.73	0.97	0.99
TKN as N	10	2	N/A				0.2	0.2	0.24	0.53	0.75	0.8	0.8
Total Phosphorus	10	0	N/A				0.05	0.05	0.09	0.12	0.16	0.17	0.17
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	10	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	10	6	>7	0	0		2	2	2	2	2	3	3
Iron, total (Fe)	10	0	>1000	3	30	98.7	341	341	398	678	1480	1895	1937
Lead, total (Pb)	10	10	>25	0	0		5	5	5	5	5	5	5
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	7	>50	0	0		10	10	10	10	11	12	12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	51	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT NC 222 NR FALKLAND
Station #: O6200000 **Hydrologic Unit Code:** 3020103
Latitude: 35.69624 **Longitude:** -77.48949 **Stream class:** WS-IV NSW
Agency: NCAMBNT **NC stream index:** 28-(84)

Time period: 01/07/2003 to 12/11/2007

	#	#		Results not meeting EL			Percentiles						
	results	ND	EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	57	0	<4	0	0		4.8	5.7	6.9	8.1	10.6	11.8	15.4
	57	0	<5	1	1.8		4.8	5.7	6.9	8.1	10.6	11.8	15.4
pH (SU)	59	0	<6	1	1.7		5.8	6.3	6.7	7	7.4	7.8	8.4
	59	0	>9	0	0		5.8	6.3	6.7	7	7.4	7.8	8.4
Salinity (ppt)	59	0	N/A				0.01	0.02	0.03	0.04	0.05	0.08	0.15
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				48	67	77	91	112	174	301
Water Temperature (°C)	59	0	>32	0	0		4	6.2	10.5	17.3	25.2	27.4	31.6
Other													
TSS (mg/L)	20	3	N/A				2.5	3.8	5.5	7.2	17.2	21	27
Turbidity (NTU)	59	0	>50	1	1.7		1.6	2.6	5.9	10	13	19	60
Nutrients (mg/L)													
NH3 as N	59	18	N/A				0.02	0.02	0.02	0.02	0.03	0.05	0.11
NO2 + NO3 as N	59	0	>10	0	0		0.1	0.19	0.26	0.32	0.43	0.52	0.6
TKN as N	59	0	N/A				0.34	0.35	0.4	0.48	0.54	0.62	0.76
Total Phosphorus	59	0	N/A				0.03	0.06	0.07	0.09	0.11	0.13	0.14
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				85	129	250	460	675	822	950
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	11	>7	0	0		2	2	2	2	2	3	4
Iron, total (Fe)	17	0	>1000	15	88.2	100	590	686	1100	1200	2050	2220	2300
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Manganese, total (Mn)	11	0	>200	0	0		31	32	45	97	130	140	140
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>50	0	0		10	10	10	10	11	14	16

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
59	66	4	7	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: BALLAHACK CANAL AT SR 1526 NR CONETOE
Station #: O6201000 **Hydrologic Unit Code:** 3020103
Latitude: 35.86447 **Longitude:** -77.44383 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-87-1.2

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	11	73.3	100	0.3	0.4	1	2	4.2	8.3	8.7
	15	0	<5	12	80	100	0.3	0.4	1	2	4.2	8.3	8.7
pH (SU)	15	0	<6	2	13.3	81.6	5.8	5.9	6.1	6.5	6.7	6.8	6.8
	15	0	>9	0	0		5.8	5.9	6.1	6.5	6.7	6.8	6.8
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				132	141	191	233	291	317	339
Water Temperature (°C)	15	0	>32	0	0		7.5	8	14.7	21.3	23.9	24.6	24.9
Other													
TSS (mg/L)	10	0	N/A				1.4	2.3	13	25	80	303.5	325
Turbidity (NTU)	10	0	>50	3	30	98.7	4	4.4	9.4	19	73.8	550	600
Nutrients (mg/L)													
NH3 as N	10	1	N/A				0.01	0.01	0.04	0.25	1.23	2.97	3.05
NO2 + NO3 as N	10	1	N/A				0.01	0.01	0.03	1.01	1.56	2.28	2.33
TKN as N	10	0	N/A				0.23	0.25	0.51	0.67	3.62	9.12	9.55
Total Phosphorus	10	0	N/A				0.05	0.05	0.07	0.11	0.33	1.15	1.23

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	249	5	50	99.4

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CONETOE CRK AT SR 1409 NR BETHEL
Station #: O6205000 **Hydrologic Unit Code:** 3020103
Latitude: 35.77427 **Longitude:** -77.46384 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-87-(0.5)

Time period: 01/07/2003 to 12/11/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	57	0	<4	4	7		1	4.4	6	7.3	9.3	10.3	13.2
	57	0	<5	6	10.5	65.7	1	4.4	6	7.3	9.3	10.3	13.2
pH (SU)	59	0	<6	19	32.2	100	5	5.6	5.8	6.5	7	7.3	7.9
	59	0	>9	0	0		5	5.6	5.8	6.5	7	7.3	7.9
Salinity (ppt)	59	0	N/A				0.01	0.03	0.04	0.06	0.07	0.08	0.08
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				57	100	115	132	158	167	179
Water Temperature (°C)	59	0	>32	0	0		4	7.1	10.5	15.3	21.6	22.9	28.1
Other													
TSS (mg/L)	20	5	N/A				2.5	2.5	2.6	4.2	7.7	15.7	24
Turbidity (NTU)	59	0	>50	1	1.7		1.5	2.5	4.2	5.2	10	16	210
Nutrients (mg/L)													
NH3 as N	59	6	N/A				0.02	0.02	0.03	0.05	0.1	0.24	0.58
NO2 + NO3 as N	59	1	N/A				0.02	0.97	1.5	1.8	2	2.3	3.3
TKN as N	59	0	N/A				0.3	0.38	0.45	0.54	0.67	0.81	1.4
Total Phosphorus	59	0	N/A				0.03	0.04	0.04	0.06	0.09	0.17	0.32
Metals (ug/L)													
Aluminum, total (Al)	18	0	N/A				180	252	300	450	545	1110	1200
Arsenic, total (As)	18	18	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	18	18	>2	0	0		1	1	2	2	2	2	2
Chromium, total (Cr)	18	18	>50	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	18	17	>7	0	0		2	2	2	2	2	2	2
Iron, total (Fe)	18	0	>1000	1	5.6		350	350	405	585	630	1040	1400
Lead, total (Pb)	18	18	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	18	18	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	18	8	>50	0	0		10	10	10	10	11	18	26

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
59	68	6	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT US 264 BYP NR GREENVILLE
Station #: O6240000 **Hydrologic Unit Code:** 3020103
Latitude: 35.64598 **Longitude:** -77.42212 **Stream class:** WS-IV NSW
Agency: TPBA **NC stream index:** 28-(84)

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL: EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		5.4	6	6.6	7.2	8.6	10.2	11
	15	0	<5	0	0		5.4	6	6.6	7.2	8.6	10.2	11
pH (SU)	15	0	<6	0	0		6.4	6.5	6.9	7.1	7.2	7.4	7.5
	15	0	>9	0	0		6.4	6.5	6.9	7.1	7.2	7.4	7.5
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				80	90	122	149	179	210	211
Water Temperature (°C)	15	0	>32	0	0		10.2	10.7	15.6	25.8	27.2	29.1	29.5
Other													
TSS (mg/L)	10	0	N/A				1.5	1.7	3.8	5.5	10.3	18.4	19
Turbidity (NTU)	10	0	>50	0	0		2.9	3	3.6	4.5	13.8	23.8	24
Nutrients (mg/L)													
NH3 as N	10	5	N/A				0.01	0.01	0.01	0.02	0.06	0.1	0.1
NO2 + NO3 as N	10	0	>10	0	0		0.19	0.2	0.32	0.38	0.51	0.55	0.55
TKN as N	10	2	N/A				0.2	0.2	0.31	0.47	0.56	0.72	0.73
Total Phosphorus	10	0	N/A				0.07	0.07	0.09	0.1	0.12	0.22	0.23
Metals (ug/L)													
Arsenic, total (As)	10	10	>10	0	0		5	5	5	5	5	5	5
Cadmium, total (Cd)	10	10	>2	0	0		1	1	1	1	1	1	1
Chromium, total (Cr)	10	10	>50	0	0		5	5	5	5	5	5	5
Copper, total (Cu)	10	7	>7	0	0		2	2	2	2	2	2	2
Iron, total (Fe)	10	0	>1000	4	40	99.8	312	319	455	618	1369	1835	1873
Lead, total (Pb)	10	10	>25	0	0		5	5	5	5	5	5	5
Manganese, total (Mn)	10	0	>200	4	40	99.8	40	41	52	175	213	226	226
Mercury, total (Hg)	10	10	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	10	10	>25	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	10	6	>50	0	0		10	10	10	10	12	16	16

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	32	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: CHICOD CRK AT SR 1760 NR SIMPSON
Station #: O6450000 **Hydrologic Unit Code:** 3020103
Latitude: 35.56149 **Longitude:** -77.23047 **Stream class:** C NSW
Agency: NCAMBNT **NC stream index:** 28-101

Time period: 01/07/2003 to 12/11/2007

	# results	# ND	Results not meeting EL: EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	58	0	<4	24	41.4	100	0.4	0.9	2.5	5	7.9	10.6	12.8
	58	0	<5	29	50	100	0.4	0.9	2.5	5	7.9	10.6	12.8
pH (SU)	60	0	<6	3	5		5.8	6	6.2	6.8	7	7.3	8
	60	0	>9	0	0		5.8	6	6.2	6.8	7	7.3	8
Salinity (ppt)	60	0	N/A				0.02	0.03	0.04	0.05	0.07	0.08	0.19
Spec. conductance (umhos/cm at 25°C)	60	0	N/A				77	86	104	124	149	172	390
Water Temperature (°C)	60	0	>32	0	0		4	5.1	10.7	16.6	23.5	25.7	27.4
Other													
TSS (mg/L)	20	6	N/A				2.5	2.5	2.8	5	6.8	9.5	13
Turbidity (NTU)	60	0	>50	0	0		2.1	2.9	4.1	5.2	6.9	13	23
Nutrients (mg/L)													
NH3 as N	60	10	N/A				0.02	0.02	0.02	0.04	0.09	0.11	0.33
NO2 + NO3 as N	60	14	N/A				0.02	0.02	0.02	0.12	0.41	0.79	1.3
TKN as N	60	0	N/A				0.43	0.49	0.57	0.73	0.87	1.19	1.5
Total Phosphorus	60	0	N/A				0.06	0.09	0.12	0.24	0.38	0.43	0.75
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				65	71	100	160	280	514	730
Arsenic, total (As)	17	16	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	15	>7	0	0		2	2	2	2	2	4	6
Iron, total (Fe)	17	0	>1000	11	64.7	100	610	650	740	1200	1900	3580	4300
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>50	0	0		10	10	10	10	11	17	21

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
60	99	7	12	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TAR RIV AT SR 1565 NR GRIMESLAND
Station #: O6500000 **Hydrologic Unit Code:** 3020103
Latitude: 35.57404 **Longitude:** -77.17542 **Stream class:** B NSW
Agency: NCAMBNT **NC stream index:** 28-(99.5)

Time period: 01/07/2003 to 12/11/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	55	0	<4	1	1.8		2.2	5	5.8	7.2	9.8	11.5	12.7
	55	0	<5	5	9.1		2.2	5	5.8	7.2	9.8	11.5	12.7
pH (SU)	57	0	<6	1	1.8		5.9	6.3	6.6	7	7.2	7.5	8
	57	0	>9	0	0		5.9	6.3	6.6	7	7.2	7.5	8
Salinity (ppt)	57	0	N/A				0.01	0.02	0.03	0.04	0.05	0.07	2.4
Spec. conductance (umhos/cm at 25°C)	57	0	N/A				48	71	82	97	116	154	4406
Water Temperature (°C)	57	0	>32	0	0		5	6.9	10.3	18.1	25.6	29.2	30.3
Other													
TSS (mg/L)	19	3	N/A				4	5	6	8	11	16	20
Turbidity (NTU)	57	0	>50	0	0		3.9	5.4	6.8	8.8	13	17	48
Nutrients (mg/L)													
NH3 as N	57	7	N/A				0.02	0.02	0.02	0.04	0.06	0.08	0.13
NO2 + NO3 as N	57	0	N/A				0.12	0.26	0.36	0.46	0.54	0.62	0.91
TKN as N	57	0	N/A				0.28	0.38	0.44	0.52	0.64	0.68	0.8
Total Phosphorus	57	0	N/A				0.05	0.07	0.08	0.11	0.13	0.15	0.31
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				150	182	260	320	565	728	1000
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	1	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	17	11	>7	0	0		2	2	2	2	2	3	4
Iron, total (Fe)	17	0	>1000	11	64.7	100	700	852	1000	1200	1400	1960	2200
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	15	15	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>50	0	0		10	10	10	10	10	14	18

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
57	46	3	5	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: GRINDLE CRK AT SR 1427 NR BETHEL
Station #: O6700000 **Hydrologic Unit Code:** 3020103
Latitude: 35.76324 **Longitude:** -77.37805 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-100

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		4.1	4.8	6	6.8	8.1	10.7	11
	15	0	<5	1	6.7		4.1	4.8	6	6.8	8.1	10.7	11
pH (SU)	15	0	<6	1	6.7		5.1	6.1	6.7	6.8	6.9	7.1	7.2
	15	0	>9	0	0		5.1	6.1	6.7	6.8	6.9	7.1	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				153	154	183	195	201	217	230
Water Temperature (°C)	15	0	>32	0	0		9.3	10.3	16.1	22.2	23.6	26.3	26.5
Other													
TSS (mg/L)	10	0	N/A				2.7	2.7	3.2	4.8	17.2	37.8	39
Turbidity (NTU)	10	0	>50	0	0		3.1	3.2	6.1	9.7	13.2	23.3	24
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.01	0.07	0.14	0.15
NO2 + NO3 as N	10	0	N/A				0.1	0.1	0.14	0.3	1.25	3.07	3.22
TKN as N	10	2	N/A				0.2	0.2	0.24	0.44	0.54	0.64	0.65
Total Phosphorus	10	0	N/A				0.05	0.05	0.08	0.09	0.16	0.27	0.27

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	62	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: GRINDLE CRK AT US 264 AT PACTOLUS
Station #: O6798000 **Hydrologic Unit Code:** 3020103
Latitude: 35.62426 **Longitude:** -77.22118 **Stream class:** C NSW
Agency: TPBA **NC stream index:** 28-100

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	<4	0	0		6.4	7.1	8.7	9.6	9.9	10.6	10.7
	15	0	<5	0	0		6.4	7.1	8.7	9.6	9.9	10.6	10.7
pH (SU)	15	0	<6	0	0		6.2	6.3	6.6	6.9	7.1	7.2	7.2
	15	0	>9	0	0		6.2	6.3	6.6	6.9	7.1	7.2	7.2
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				130	134	147	157	171	190	204
Water Temperature (°C)	15	0	>32	0	0		9.3	10.5	15.7	22.5	24.6	26.3	26.8
Other													
TSS (mg/L)	10	0	N/A				1.3	1.3	1.7	3.2	9.5	12.8	13
Turbidity (NTU)	10	0	>50	0	0		1.9	1.9	2.4	3.2	10	16.8	17
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.02	0.1	0.19	0.19
NO2 + NO3 as N	10	0	N/A				0.3	0.3	0.37	0.81	1.31	1.65	1.68
TKN as N	10	1	N/A				0.2	0.2	0.3	0.49	0.58	0.63	0.63
Total Phosphorus	10	0	N/A				0.04	0.04	0.06	0.06	0.09	0.12	0.12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	43	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FLAT SWAMP AT SR 1159 THIRD ST AT ROBERSONVILLE
Station #: O7000000 **Hydrologic Unit Code:** 3020103
Latitude: 35.81602 **Longitude:** -77.26421 **Stream class:** C Sw NSW
Agency: TPBA **NC stream index:** 28-103-2

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	N/A				0.3	0.4	0.6	1.5	2.9	7.9	8
pH (SU)	15	0	<4.3	0	0		5.9	6.1	6.3	6.5	6.6	6.6	6.7
	15	0	>9	0	0		5.9	6.1	6.3	6.5	6.6	6.6	6.7
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				118	122	130	136	164	188	202
Water Temperature (°C)	15	0	>32	0	0		8.1	10	13.9	21.6	23.7	25.1	25.4
Other													
Turbidity (NTU)	10	0	>50	0	0		8	8.2	10.8	15	21	26.4	27
Nutrients (mg/L)													
NH3 as N	10	4	N/A				0.01	0.01	0.01	0.07	0.16	0.38	0.4
NO2 + NO3 as N	10	3	N/A				0.01	0.01	0.01	0.07	0.48	1.69	1.8
TKN as N	10	0	N/A				0.25	0.31	0.82	0.91	1.14	1.43	1.45
Total Phosphorus	10	0	N/A				0.08	0.08	0.12	0.19	0.27	1.38	1.5

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	87	2	20	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: FLAT SWAMP AT SR 1157 NR ROBERSONVILLE
Station #: O7100000 **Hydrologic Unit Code:** 3020103
Latitude: 35.78183 **Longitude:** -77.25683 **Stream class:** C Sw NSW
Agency: TPBA **NC stream index:** 28-103-2

Time period: 03/09/2007 to 12/31/2007

	# results	# ND	Results not meeting EL: EL	#	%	%Conf	Percentiles: Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	15	0	N/A				0.7	0.9	1.8	2.7	6.3	8.5	9.1
pH (SU)	15	0	<4.3	0	0		6.2	6.4	6.7	6.9	7.1	7.4	7.5
	15	0	>9	0	0		6.2	6.4	6.7	6.9	7.1	7.4	7.5
Spec. conductance (umhos/cm at 25°C)	15	0	N/A				152	173	223	298	392	536	585
Water Temperature (°C)	15	0	>32	0	0		7.6	9.2	12.3	21.4	22.8	25.1	25.5
Other													
Turbidity (NTU)	10	0	>50	1	10	73.6	9	9.3	12.8	14.5	21.2	65.8	70
Nutrients (mg/L)													
NH3 as N	10	1	N/A				0.01	0.01	0.04	0.12	0.26	0.47	0.49
NO2 + NO3 as N	10	1	N/A				0.01	0.01	0.14	0.3	0.83	1.16	1.2
TKN as N	10	0	N/A				0.22	0.25	0.7	0.97	1.22	1.36	1.36
Total Phosphorus	10	0	N/A				0.16	0.16	0.17	0.37	0.66	0.98	0.99

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
10	114	1	10	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: TRANTERS CRK AT SR 1403 NR WASHINGTON
Station #: O7300000 **Hydrologic Unit Code:** 3020103
Latitude: 35.56297 **Longitude:** -77.08640 **Stream class:** C Sw NSW
Agency: NCAMBNT **NC stream index:** 28-103

Time period: 01/07/2003 to 12/11/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	57	0	N/A				1.2	3.2	4.6	6	8	10.4	11.7
pH (SU)	59	0	<4.3	0	0		5.6	6	6.2	6.7	7	7.3	7.8
	59	0	>9	0	0		5.6	6	6.2	6.7	7	7.3	7.8
Salinity (ppt)	59	0	N/A				0.01	0.03	0.03	0.04	0.06	0.46	7.2
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				51	75	88	106	147	891	12608
Water Temperature (°C)	59	0	>32	0	0		5	7.6	11.1	18.6	25.7	29.2	31.4
Other													
Chlorophyll a (ug/L)	53	8	>40	1	1.9		1	1	1	3	10	21	80
TSS (mg/L)	20	5	N/A				2.5	2.5	3	4.4	6.1	11.8	24
Turbidity (NTU)	59	0	>50	0	0		2.4	3	3.8	5.1	6.3	9	26
Nutrients (mg/L)													
NH3 as N	59	16	N/A				0.02	0.02	0.02	0.03	0.06	0.09	0.21
NO2 + NO3 as N	59	9	N/A				0.02	0.02	0.04	0.11	0.19	0.28	1.8
TKN as N	59	0	N/A				0.42	0.48	0.56	0.69	0.82	0.92	1
Total Phosphorus	59	0	N/A				0.05	0.05	0.06	0.09	0.13	0.16	0.23
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				170	170	200	280	445	656	1200
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	13	>7	1	5.9		2	2	2	2	2	9	30
Iron, total (Fe)	17	0	>1000	9	52.9	100	640	656	750	1200	1550	2040	2200
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	8	>50	0	0		10	10	10	10	14	19	21

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
59	51	4	7	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT US 17 AT WASHINGTON
Station #: O7650000 **Hydrologic Unit Code:** 3020104
Latitude: 35.54321 **Longitude:** -77.06152 **Stream class:** SC NSW
Agency: NCAMBNT **NC stream index:** 29-(1)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	7	6		3	5.5	6.2	7.6	9.7	11.7	15.8
pH (SU)	118	0	<6.8	19	16.1	98.7	5.4	6.5	6.9	7.2	7.6	7.8	8.1
	118	0	>8.5	0	0		5.4	6.5	6.9	7.2	7.6	7.8	8.1
Salinity (ppt)	119	0	N/A				0.01	0.02	0.03	0.05	0.18	1.4	11.04
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				51	70	82	114	392	2659	18690
Water Temperature (°C)	119	0	>32	0	0		2.5	6.3	10.7	18.6	25.5	28.6	31.9
Other													
Chlorophyll a (ug/L)	109	6	>40	9	8.3		1	1	2	4	17	38	81
TSS (mg/L)	20	2	N/A				2.5	2.6	6	8	12	23.8	29
Turbidity (NTU)	119	0	>25	1	0.8		3	5.5	6.4	8.2	12	17	62
Nutrients (mg/L)													
NH3 as N	119	45	N/A				0.02	0.02	0.02	0.03	0.05	0.08	0.26
NO2 + NO3 as N	119	13	N/A				0.02	0.02	0.22	0.34	0.44	0.52	0.71
TKN as N	119	0	N/A				0.26	0.42	0.5	0.61	0.7	0.8	0.98
Total Phosphorus	119	0	N/A				0.05	0.06	0.08	0.11	0.13	0.14	0.25
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				180	188	265	320	560	776	920
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	13	25
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	12	>3	0	0		2	2	2	2	2	4	10
Iron, total (Fe)	17	0	N/A				600	632	950	1400	1400	1700	1700
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	16	>86	0	0		10	10	10	10	10	10	10

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	42	2	2	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT CM 16 NR WHICHARD BEACH
Station #: O7680000 **Hydrologic Unit Code:** 3020104
Latitude: 35.50791 **Longitude:** -77.02034 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	5	4.3		3	5.7	7.2	8.4	9.8	11.7	14.6
pH (SU)	118	0	<6.8	16	13.6	92	5.4	6.5	7	7.4	7.7	7.9	8.8
	118	0	>8.5	1	0.8		5.4	6.5	7	7.4	7.7	7.9	8.8
Salinity (ppt)	119	0	N/A				0.01	0.02	0.04	0.5	1.7	4.68	14.06
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				51	74	98	968	3307	8346	23239
Water Temperature (°C)	119	0	>32	0	0		2.6	6.2	10.7	19	26	29.1	31.1
Other													
Chlorophyll a (ug/L)	109	2	>40	18	16.5	98.8	1	2	4	11	30	45	230
TSS (mg/L)	20	1	N/A				4	5.1	6	9.1	12	16.9	24
Turbidity (NTU)	119	0	>25	3	2.5		1.8	5	6.7	8.2	12	16	35
Nutrients (mg/L)													
NH3 as N	119	56	N/A				0.02	0.02	0.02	0.02	0.04	0.07	0.43
NO2 + NO3 as N	119	26	N/A				0.02	0.02	0.03	0.23	0.38	0.48	0.66
TKN as N	119	0	N/A				0.34	0.46	0.54	0.63	0.76	0.91	1.4
Total Phosphorus	119	1	N/A				0.02	0.06	0.08	0.11	0.13	0.16	0.61
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				140	140	170	230	475	714	810
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	18	50
Cadmium, total (Cd)	17	17	>5	0	0		1	1	2	2	2	4	10
Chromium, total (Cr)	17	17	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	17	9	>3	4	23.5	97.8	2	2	2	2	3	5	5
Iron, total (Fe)	17	0	N/A				480	544	685	1100	1500	1720	1800
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	14	>86	0	0		10	10	10	10	10	19	40

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	27	3	3	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: CHOCOWINITY BAY ABOVE SILAS CRK NR WHICHARD BEACH
Station #: O7710000 **Hydrologic Unit Code:** 3020104
Latitude: 35.50310 **Longitude:** -77.04231 **Stream class:** SC NSW
Agency: NCAMBNT **NC stream index:** 29-6-(1)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	2	1.7		4.3	6.8	7.7	9	11.3	12.7	16.3
pH (SU)	118	0	<6.8	7	5.9		6	6.8	7.2	7.6	7.9	8.3	9.3
	118	0	>8.5	4	3.4		6	6.8	7.2	7.6	7.9	8.3	9.3
Salinity (ppt)	119	0	N/A				0.05	0.11	0.23	1.16	2.8	5.83	15.11
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				124	226	460	2214	5134	10282	24936
Water Temperature (°C)	119	0	>32	0	0		1.9	6.3	11	19.1	26.5	29.7	31.5
Other													
Chlorophyll a (ug/L)	108	0	>40	33	30.6	100	2	12	20	31	43	55	110
TSS (mg/L)	20	0	N/A				4	6.2	8.6	12	15.5	20.7	33
Turbidity (NTU)	119	0	>25	2	1.7		2.5	5.3	7.1	9.2	12	15	53
Nutrients (mg/L)													
NH3 as N	119	100	N/A				0.02	0.02	0.02	0.02	0.02	0.05	0.21
NO2 + NO3 as N	119	70	N/A				0.02	0.02	0.02	0.02	0.1	0.2	0.47
TKN as N	119	0	N/A				0.44	0.58	0.66	0.77	0.95	1.1	1.6
Total Phosphorus	119	0	N/A				0.05	0.07	0.08	0.12	0.16	0.21	0.29
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				100	132	170	240	415	584	960
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	18	50
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	9	>3	4	23.5	97.8	2	2	2	2	3	7	9
Iron, total (Fe)	17	0	N/A				220	284	490	610	825	1124	1700
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	13	>86	0	0		10	10	10	10	10	12	12

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	13	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
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%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PAMLICO RIV AT MOUTH OF BROAD CRK NR BUNYON MID CHANNEL
Station #: O787000C **Hydrologic Unit Code:** 3020104
Latitude: 35.46183 **Longitude:** -76.95956 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	2	1.7		3.9	7.1	7.8	9	11	12.2	15.1
pH (SU)	119	0	<6.8	12	10.1	58.8	5.4	6.7	7.1	7.6	7.9	8.2	8.9
	119	0	>8.5	5	4.2		5.4	6.7	7.1	7.6	7.9	8.2	8.9
Salinity (ppt)	120	0	N/A				0.02	0.09	0.38	2.36	4.61	7.77	16.66
Spec. conductance (umhos/cm at 25°C)	120	0	N/A				57	185	762	4377	8330	13848	27242
Water Temperature (°C)	120	0	>32	0	0		2.3	6	10.6	19.1	25.8	28.5	30.2
Other													
Chlorophyll a (ug/L)	109	0	>40	23	21.1	100	1	6	13	24	36	55	82
TSS (mg/L)	20	1	N/A				2.5	4.9	6.3	8.5	14.8	21.7	35
Turbidity (NTU)	119	0	>25	2	1.7		1.3	4.5	5.7	7	11	16	33
Nutrients (mg/L)													
NH3 as N	119	84	N/A				0.02	0.02	0.02	0.02	0.02	0.06	0.2
NO2 + NO3 as N	119	54	N/A				0.02	0.02	0.02	0.03	0.21	0.33	0.5
TKN as N	119	0	N/A				0.4	0.54	0.61	0.71	0.82	0.92	3.4
Total Phosphorus	119	0	N/A				0.04	0.06	0.07	0.1	0.13	0.16	0.28
Metals (ug/L)													
Aluminum, total (Al)	18	0	N/A				62	64	119	190	438	770	950
Arsenic, total (As)	18	18	>10	0	0		5	5	5	5	10	14	50
Cadmium, total (Cd)	18	18	>5	0	0		1	1	2	2	2	11	20
Chromium, total (Cr)	18	18	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	18	4	>3	8	44.4	100	2	2	2	3	4	5	7
Iron, total (Fe)	18	0	N/A				220	292	408	720	1225	1520	1700
Lead, total (Pb)	18	18	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	17	17	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	18	18	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	18	15	>86	0	0		10	10	10	10	10	19	40

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	9	1	1	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
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%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PAMLICO RIV AT MOUTH OF BROAD CRK NR BUNYON N SHORE
Station #: O787000N **Hydrologic Unit Code:** 3020104
Latitude: 35.48094 **Longitude:** -76.95642 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-10-(3)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	1	0.9		3.4	6.7	7.7	9.1	10.5	12.1	16.9
pH (SU)	118	0	<6.8	9	7.6		5.7	6.8	7.2	7.5	7.8	8.2	8.9
	118	0	>8.5	6	5.1		5.7	6.8	7.2	7.5	7.8	8.2	8.9
Salinity (ppt)	119	0	N/A				0.02	0.15	0.59	2.61	4.98	8.1	16.1
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				65	318	1112	4859	8700	14218	26555
Water Temperature (°C)	119	0	>32	0	0		2.1	6.4	11.1	19.4	25.9	28.8	30.2
Other													
Chlorophyll a (ug/L)	2	0	>40	2	100		61	61	61	68	76	76	76
TSS (mg/L)	20	1	N/A				2.5	5.1	8	10	15.5	17.9	22
Turbidity (NTU)	119	0	>25	3	2.5		1.6	4.4	5.9	8.3	11	15	29
Nutrients (mg/L)													
NH3 as N	119	81	N/A				0.02	0.02	0.02	0.02	0.02	0.09	0.29
NO2 + NO3 as N	119	55	N/A				0.02	0.02	0.02	0.02	0.17	0.33	0.52
TKN as N	119	0	N/A				0.45	0.56	0.66	0.75	0.88	0.96	1.5
Total Phosphorus	119	0	N/A				0.05	0.06	0.07	0.09	0.14	0.17	0.28
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				130	138	205	280	450	822	830
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	13	25
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	8	>3	6	35.3	99.9	2	2	2	3	6	9	10
Iron, total (Fe)	17	0	N/A				240	312	460	900	1100	1200	1200
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>86	0	0		10	10	10	10	12	20	36

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	16	2	2	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PAMLICO RIV AT MOUTH OF BROAD CRK NR BUNYON S SHORE
Station #: O787000S **Hydrologic Unit Code:** 3020104
Latitude: 35.44533 **Longitude:** -76.96217 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-9

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	115	0	<5	1	0.9		4.7	6.6	7.7	9.2	10.8	12.4	18.3
pH (SU)	118	0	<6.8	7	5.9		5.8	6.9	7.2	7.6	8	8.3	9
	118	0	>8.5	7	5.9		5.8	6.9	7.2	7.6	8	8.3	9
Salinity (ppt)	119	0	N/A				0.02	0.18	0.58	2.72	5.4	7.52	16.37
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				67	377	1079	4957	9571	13077	26842
Water Temperature (°C)	119	0	>32	0	0		2.7	6.2	11	19.1	26	28.7	30.7
Other													
Chlorophyll a (ug/L)	2	0	>40	1	50		5	5	5	118	230	230	230
TSS (mg/L)	19	0	N/A				4	6	7.5	10	12	18	18
Turbidity (NTU)	119	0	>25	3	2.5		1.3	4.4	5.8	7.1	10	15	41
Nutrients (mg/L)													
NH3 as N	119	86	N/A				0.02	0.02	0.02	0.02	0.02	0.06	0.7
NO2 + NO3 as N	119	52	N/A				0.02	0.02	0.02	0.02	0.2	0.32	0.49
TKN as N	119	0	N/A				0.39	0.53	0.62	0.72	0.82	0.92	2.2
Total Phosphorus	119	0	N/A				0.04	0.06	0.07	0.09	0.14	0.17	0.37
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				62	67	120	180	315	476	540
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	18	50
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	6	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	10	>3	5	29.4	99.5	2	2	2	2	4	8	10
Iron, total (Fe)	17	0	N/A				120	176	315	530	700	980	1100
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	15	>86	0	0		10	10	10	10	10	13	23

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	8	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: BATH CRK AT NC 92 NR BATH
Station #: O8495000 **Hydrologic Unit Code:** 3020104
Latitude: 35.47745 **Longitude:** -76.81692 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-19-(5.5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	117	0	<5	0	0		5.1	7.3	8.1	9.5	11.3	13.2	15.1
pH (SU)	117	0	<6.8	2	1.7		5.6	7.2	7.5	7.9	8.2	8.6	9.8
	117	0	>8.5	12	10.3	61.2	5.6	7.2	7.5	7.9	8.2	8.6	9.8
Salinity (ppt)	117	0	N/A				0.5	1.66	2.99	5.65	8.09	10.42	18.15
Spec. conductance (umhos/cm at 25°C)	117	0	N/A				1006	3068	5428	9993	13986	17719	29439
Water Temperature (°C)	117	0	>32	2	1.7		2.6	7.2	11.6	19.8	28	30.5	33.1
Other													
Chlorophyll a (ug/L)	108	0	>40	23	21.3	100	4	11	18	28	38	58	230
TSS (mg/L)	19	0	N/A				6	7.2	9.8	12	17	20	21
Turbidity (NTU)	118	0	>25	1	0.8		1	3.6	5.5	7.6	10.2	14	92
Nutrients (mg/L)													
NH3 as N	118	102	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.31
NO2 + NO3 as N	118	88	N/A				0.02	0.02	0.02	0.02	0.02	0.08	0.96
TKN as N	118	0	N/A				0.4	0.63	0.72	0.81	0.95	1.2	3.1
Total Phosphorus	118	0	N/A				0.04	0.06	0.06	0.08	0.12	0.19	0.45
Metals (ug/L)													
Aluminum, total (Al)	18	0	N/A				77	96	125	170	332	428	770
Arsenic, total (As)	18	18	>10	0	0		5	5	5	5	10	28	50
Cadmium, total (Cd)	18	18	>5	0	0		1	1	2	2	4	10	10
Chromium, total (Cr)	18	18	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	18	10	>3	8	44.4	100	2	2	2	3	9	11	14
Iron, total (Fe)	18	0	N/A				60	73	158	290	362	583	700
Lead, total (Pb)	18	18	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	17	17	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	18	18	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	18	13	>86	0	0		10	10	10	10	12	17	31

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
118	12	1	1	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT CM 5 NR CORE POINT
Station #: O8498000 **Hydrologic Unit Code:** 3020104
Latitude: 35.43048 **Longitude:** -76.84144 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	119	0	<5	0	0		5.5	7.3	8.1	9.4	10.9	12.8	14.3
pH (SU)	119	0	<6.8	1	0.8		6.3	7.1	7.4	7.7	8.2	8.4	8.8
	119	0	>8.5	6	5		6.3	7.1	7.4	7.7	8.2	8.4	8.8
Salinity (ppt)	119	0	N/A				0.04	1.15	2.3	4.38	7.49	10.05	18.28
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				106	2154	4246	7842	13029	17117	29636
Water Temperature (°C)	119	0	>32	0	0		2	7	10.8	18.8	26.2	29.1	31.9
Other													
Chlorophyll a (ug/L)	109	0	>40	25	22.9	100	5	10	15	26	39	56	120
TSS (mg/L)	19	2	N/A				2.5	4	4.8	8	14	32	49
Turbidity (NTU)	118	0	>25	1	0.8		1.6	3.4	4.3	5.3	7.7	12	66
Nutrients (mg/L)													
NH3 as N	119	101	N/A				0.02	0.02	0.02	0.02	0.02	0.04	0.14
NO2 + NO3 as N	119	80	N/A				0.02	0.02	0.02	0.02	0.06	0.15	0.35
TKN as N	119	0	N/A				0.32	0.53	0.61	0.7	0.84	0.94	1.3
Total Phosphorus	119	0	N/A				0.04	0.05	0.06	0.07	0.11	0.15	0.2
Metals (ug/L)													
Aluminum, total (Al)	17	1	N/A				50	72	120	190	370	500	860
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	13	25
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	4	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	8	>3	7	41.2	100	2	2	2	3	4	9	10
Iron, total (Fe)	17	0	N/A				71	134	185	410	720	996	1100
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	13	>86	0	0		10	10	10	10	10	22	32

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	3	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT CM 4 NR GUM POINT MID CHANNEL
Station #: O865000C **Hydrologic Unit Code:** 3020104
Latitude: 35.40471 **Longitude:** -76.76707 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	119	0	<5	0	0		6.2	7.2	8.2	9.5	11.2	12.7	14.9
pH (SU)	119	0	<6.8	5	4.2		5.6	7.3	7.6	7.8	8.1	8.4	8.8
	119	0	>8.5	4	3.4		5.6	7.3	7.6	7.8	8.1	8.4	8.8
Salinity (ppt)	119	0	N/A				0.19	2.27	3.95	6.2	8.84	11.1	19.57
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				377	4260	7088	10832	15199	18734	31481
Water Temperature (°C)	119	0	>32	1	0.8		1.9	6.9	11	19.2	26.2	29.1	32.3
Other													
Chlorophyll a (ug/L)	109	0	>40	22	20.2	100	4	10	13	22	36	57	78
TSS (mg/L)	20	1	N/A				2.5	3.2	6	7.1	15.5	24.4	25
Turbidity (NTU)	119	0	>25	0	0		1.1	2.6	3.3	4.6	6.3	9	15
Nutrients (mg/L)													
NH3 as N	119	102	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.15
NO2 + NO3 as N	119	89	N/A				0.02	0.02	0.02	0.02	0.02	0.08	0.33
TKN as N	119	0	N/A				0.39	0.54	0.59	0.68	0.8	0.92	1.1
Total Phosphorus	119	0	N/A				0.03	0.04	0.05	0.06	0.09	0.12	0.22
Metals (ug/L)													
Aluminum, total (Al)	17	2	N/A				50	50	125	160	265	514	930
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	13	25
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	11	>3	5	29.4	99.5	2	2	2	2	5	9	10
Iron, total (Fe)	17	2	N/A				50	50	105	250	460	710	950
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	14	>86	0	0		10	10	10	10	10	17	17

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	2	0	0	

Key:
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%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT CM 4 NR GUM POINT N SHORE
Station #: O865000N **Hydrologic Unit Code:** 3020104
Latitude: 35.41285 **Longitude:** -76.76343 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	119	0	<5	0	0		6.1	7.4	7.9	9.4	11.3	12.7	16.1
pH (SU)	119	0	<6.8	4	3.4		6.2	7.2	7.5	7.9	8.2	8.4	9
	119	0	>8.5	4	3.4		6.2	7.2	7.5	7.9	8.2	8.4	9
Salinity (ppt)	119	0	N/A				0.35	2.35	3.87	6.35	9.25	11.45	19.33
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				686	4410	6970	11151	15938	19315	31161
Water Temperature (°C)	119	0	>32	0	0		1.7	7.1	10.4	19.1	26.2	29.1	31.6
Other													
TSS (mg/L)	20	0	N/A				5	5.8	6.5	12.5	15.8	19	21
Turbidity (NTU)	119	1	>25	0	0		1	2.8	3.5	4.7	6.7	9.5	14
Nutrients (mg/L)													
NH3 as N	117	99	N/A				0.02	0.02	0.02	0.02	0.02	0.03	0.14
NO2 + NO3 as N	117	88	N/A				0.02	0.02	0.02	0.02	0.02	0.04	0.25
TKN as N	117	0	N/A				0.36	0.52	0.58	0.68	0.8	1	1.8
Total Phosphorus	117	0	N/A				0.03	0.04	0.05	0.06	0.1	0.13	0.2
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				53	55	73	120	165	182	190
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	50	50
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	10	10	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	13	>3	4	23.5	97.8	2	2	2	2	8	10	10
Iron, total (Fe)	17	1	N/A				50	54	74	110	205	364	420
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	18	50
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	13	>86	0	0		10	10	10	10	10	13	15

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	2	0	0	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT CM 4 NR GUM POINT S SHORE
Station #: O865000S **Hydrologic Unit Code:** 3020104
Latitude: 35.38992 **Longitude:** -76.77234 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-(5)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	117	0	<5	0	0		5.7	7	7.7	9.3	11.1	12.9	14.5
pH (SU)	117	0	<6.8	5	4.3		5.6	7.1	7.5	7.8	8.1	8.3	8.7
	117	0	>8.5	5	4.3		5.6	7.1	7.5	7.8	8.1	8.3	8.7
Salinity (ppt)	117	0	N/A				0.17	2.28	3.95	6.03	8.72	11.25	19.17
Spec. conductance (umhos/cm at 25°C)	117	0	N/A				354	4182	7088	10617	14996	19008	30972
Water Temperature (°C)	117	0	>32	1	0.9		2.1	6.8	11.1	18.9	25.9	28.2	32.1
Other													
Chlorophyll a (ug/L)	4	0	>40	4	100		41	41	41	48	66	70	70
TSS (mg/L)	20	0	N/A				2.5	5	7	10.5	12	21.5	26
Turbidity (NTU)	119	0	>25	0	0		1.5	3	4.1	5.5	7.3	10	17
Nutrients (mg/L)													
NH3 as N	117	95	N/A				0.02	0.02	0.02	0.02	0.02	0.04	0.14
NO2 + NO3 as N	117	78	N/A				0.02	0.02	0.02	0.02	0.02	0.09	0.31
TKN as N	117	0	N/A				0.36	0.53	0.6	0.69	0.81	0.95	1.2
Total Phosphorus	117	0	N/A				0.03	0.05	0.06	0.07	0.1	0.14	0.22
Metals (ug/L)													
Aluminum, total (Al)	18	1	N/A				50	51	104	140	275	494	530
Arsenic, total (As)	18	18	>10	0	0		5	5	5	5	10	50	50
Cadmium, total (Cd)	18	18	>5	0	0		1	1	2	2	10	10	10
Chromium, total (Cr)	18	18	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	18	11	>3	6	33.3	99.9	2	2	2	2	9	14	15
Iron, total (Fe)	18	0	N/A				63	81	118	250	372	651	1200
Lead, total (Pb)	18	18	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	17	17	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	18	18	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	18	17	>86	0	0		10	10	10	10	10	10	13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
119	2	0	0	

Key:
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ND: number of observations reported to be below detection level (non-detect)
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Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV AT HICKORY PT NR SOUTH CRK
Station #: O9059000 **Hydrologic Unit Code:** 3020104
Latitude: 35.38542 **Longitude:** -76.68372 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-(27)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	119	0	<5	0	0		6	7.3	8.1	9.4	11.3	12.6	14
pH (SU)	119	0	<6.8	3	2.5		5.5	7.2	7.5	7.8	8.2	8.3	9
	119	0	>8.5	5	4.2		5.5	7.2	7.5	7.8	8.2	8.3	9
Salinity (ppt)	119	0	N/A				1.66	4	5.24	7.27	10.7	12.42	20.9
Spec. conductance (umhos/cm at 25°C)	119	0	N/A				3068	7160	9293	12960	18146	20871	33462
Water Temperature (°C)	119	0	>32	1	0.8		2	7	10.8	18.8	26.2	29	32.6
Other													
Chlorophyll a (ug/L)	109	0	>40	9	8.3		4	7	9	16	26	39	110
TSS (mg/L)	20	0	N/A				4	4.1	6.4	9.3	15.5	21.7	24
Turbidity (NTU)	119	1	>25	0	0		1	2.1	2.8	4	5.3	7.4	16
Nutrients (mg/L)													
NH3 as N	117	107	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.11
NO2 + NO3 as N	117	94	N/A				0.02	0.02	0.02	0.02	0.02	0.03	0.15
TKN as N	117	0	N/A				0.32	0.46	0.54	0.62	0.72	0.81	1.3
Total Phosphorus	117	0	N/A				0.02	0.04	0.04	0.05	0.07	0.1	0.21
Metals (ug/L)													
Aluminum, total (Al)	17	1	N/A				50	60	76	110	160	238	350
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	50	50
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	10	10	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	16	>3	1	5.9		2	2	2	2	10	10	11
Iron, total (Fe)	17	6	N/A				50	50	50	69	185	230	270
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	18	50
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>86	0	0		10	10	10	10	10	12	13

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:	Median	# > 43	% > 43	%Conf
119	2	0	0		1	2	2	

Key:
result: number of observations
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO CRK AT NC 92 AT SIDNEY CROSSROADS
Station #: O9750500 **Hydrologic Unit Code:** 3020104
Latitude: 35.49938 **Longitude:** -76.67239 **Stream class:** SC NSW
Agency: NCAMBNT **NC stream index:** 29-34-35

Time period: 01/08/2003 to 12/17/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	56	0	<5	1	1.8		4.4	6.4	7.7	9.2	11.2	12.6	13.3
pH (SU)	60	0	<6.8	4	6.7		5.9	6.8	7.1	7.6	8	8.4	8.8
	60	0	>8.5	3	5		5.9	6.8	7.1	7.6	8	8.4	8.8
Salinity (ppt)	60	0	N/A				0.48	2.15	3.72	5.71	8.95	12.15	18.64
Spec. conductance (umhos/cm at 25°C)	60	0	N/A				920	3950	6854	10464	15413	20414	30115
Water Temperature (°C)	60	0	>32	2	3.3		4	7.5	13	21.1	26.8	29.7	34.2
Other													
Chlorophyll a (ug/L)	55	0	>40	21	38.2	100	1	8	18	29	49	70	2900
TSS (mg/L)	20	0	N/A				7	8.1	11	14.5	26.5	35.4	45
Turbidity (NTU)	59	0	>25	2	3.4		2.2	3.4	5.7	7.6	10	15	40
Nutrients (mg/L)													
NH3 as N	60	43	N/A				0.02	0.02	0.02	0.02	0.02	0.13	0.32
NO2 + NO3 as N	60	29	N/A				0.02	0.02	0.02	0.02	0.3	0.47	0.87
TKN as N	60	0	N/A				0.51	0.68	0.89	1	1.2	1.39	8.2
Total Phosphorus	60	0	N/A				0.04	0.05	0.06	0.09	0.12	0.17	1
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				120	136	245	390	595	864	1000
Arsenic, total (As)	17	15	>10	1	5.9		5	5	5	10	11	30	50
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	10	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	12	>3	3	17.6	91.7	2	2	2	2	10	11	13
Iron, total (Fe)	17	0	N/A				81	104	240	280	410	576	680
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	7	>86	0	0		10	10	10	12	15	28	38

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
60	22	2	3	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PANTEGO CRK AT NC 92 AT BELHAVEN
Station #: O9751000 **Hydrologic Unit Code:** 3020104
Latitude: 35.54248 **Longitude:** -76.63630 **Stream class:** SC NSW
Agency: NCAMBNT **NC stream index:** 29-34-34-(2)

Time period: 01/08/2003 to 12/17/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	55	0	<5	3	5.5		4.1	6.2	7.5	9	11	12.2	14.1
pH (SU)	59	0	<6.8	6	10.2	62.3	5.9	6.7	7.1	7.6	7.8	8.3	8.9
	59	0	>8.5	3	5.1		5.9	6.7	7.1	7.6	7.8	8.3	8.9
Salinity (ppt)	59	0	N/A				0.3	2.19	3.44	5.31	8.56	11.91	18.26
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				589	4001	6247	9410	14760	19953	29527
Water Temperature (°C)	59	0	>32	2	3.4		2	8.2	12.8	20.5	26.5	29.9	32.7
Other													
Chlorophyll a (ug/L)	54	0	>40	10	18.5	98.3	1	6	12	24	38	64	180
TSS (mg/L)	20	0	N/A				5	5.2	8.2	12.5	16.8	30	35
Turbidity (NTU)	58	0	>25	3	5.2		3.2	4.8	6.2	8.6	13	18.2	96
Nutrients (mg/L)													
NH3 as N	59	28	N/A				0.02	0.02	0.02	0.02	0.08	0.13	0.36
NO2 + NO3 as N	59	13	N/A				0.02	0.02	0.02	0.36	1	2	5
TKN as N	59	0	N/A				0.56	0.72	0.92	1.1	1.3	1.4	2.4
Total Phosphorus	59	0	N/A				0.04	0.05	0.06	0.08	0.1	0.15	0.21
Metals (ug/L)													
Aluminum, total (Al)	18	0	N/A				150	186	388	560	788	1380	2100
Arsenic, total (As)	18	18	>10	0	0		5	5	5	5	10	14	50
Cadmium, total (Cd)	18	18	>5	0	0		1	1	2	2	2	10	10
Chromium, total (Cr)	18	18	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	18	10	>3	7	38.9	100	2	2	2	2	8	14	15
Iron, total (Fe)	18	0	N/A				220	247	325	655	912	1100	1100
Lead, total (Pb)	18	18	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	18	18	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	18	2	>86	0	0		10	10	12	14	19	21	23

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
59	18	4	7	

Key:
result: number of observations
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EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
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%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: VAN SWAMP AT NC 32 NR HOKE
Station #: O9755000 **Hydrologic Unit Code:** 3020104
Latitude: 35.73038 **Longitude:** -76.74653 **Stream class:** C Sw NSW
Agency: NCAMBNT **NC stream index:** 29-34-34-(1)

Time period: 01/08/2003 to 12/03/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	57	0	N/A				1.4	3.5	5.2	6.6	8.1	9.5	11.7
pH (SU)	60	0	<4.3	45	75	100	3	3.4	3.6	3.8	4.3	4.6	5.3
	60	0	>9	0	0		3	3.4	3.6	3.8	4.3	4.6	5.3
Salinity (ppt)	59	0	N/A				0.01	0.02	0.03	0.05	0.06	0.06	0.08
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				60	76	94	116	129	160	3620
Water Temperature (°C)	60	0	>32	0	0		4.7	8.1	10.4	15.2	20.3	22.8	26.5
Other													
TSS (mg/L)	20	8	N/A				1	2.5	2.5	3	6.8	20.5	25
Turbidity (NTU)	60	0	>50	2	3.3		1.3	1.8	2.5	4	9.4	23.8	80
Nutrients (mg/L)													
NH3 as N	60	9	N/A				0.02	0.02	0.03	0.09	0.25	0.73	1.7
NO2 + NO3 as N	60	20	N/A				0.02	0.02	0.02	0.09	0.25	0.63	2.8
TKN as N	60	0	N/A				0.74	0.8	0.92	1.2	1.68	2.3	4.6
Total Phosphorus	60	10	N/A				0.02	0.02	0.02	0.03	0.05	0.08	0.23
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				1500	1660	1800	1900	2100	2540	3100
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		1	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	16	>7	0	0		2	2	2	2	2	2	2
Iron, total (Fe)	17	0	>1000	8	47.1	100	350	494	675	1000	2250	3720	4200
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	7	>50	0	0		10	10	10	10	14	19	19

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
60	16	3	5	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT US 264 NR PONZER
Station #: O9758500 **Hydrologic Unit Code:** 3020104
Latitude: 35.57135 **Longitude:** -76.50152 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 01/08/2003 to 12/17/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	55	0	<5	13	23.6	99.9	3.1	4.1	5.1	6.9	9	10.6	14.3
pH (SU)	59	0	<6.8	37	62.7	100	4.7	5.4	6	6.5	7.1	7.3	7.8
	59	0	>8.5	0	0		4.7	5.4	6	6.5	7.1	7.3	7.8
Salinity (ppt)	59	0	N/A				0.07	0.19	1.2	2.62	5.44	8.56	15.92
Spec. conductance (umhos/cm at 25°C)	59	0	N/A				153	393	2170	4538	9578	14749	26119
Water Temperature (°C)	59	0	>32	2	3.4		4.6	8.7	12.4	19.9	26.8	29.9	34.6
Other													
Chlorophyll a (ug/L)	53	0	>40	1	1.9		1	1	2	4	12	22	72
TSS (mg/L)	20	0	N/A				2.5	3.8	4.5	8.2	13.5	19.8	22
Turbidity (NTU)	58	0	>25	1	1.7		2.5	3.7	5.3	7.7	10	14.1	40
Nutrients (mg/L)													
NH3 as N	59	3	N/A				0.02	0.02	0.09	0.15	0.2	0.3	0.5
NO2 + NO3 as N	59	6	N/A				0.02	0.02	0.08	0.43	0.78	1.1	1.8
TKN as N	59	0	N/A				0.52	0.9	1.2	1.4	1.7	1.9	2.1
Total Phosphorus	59	0	N/A				0.04	0.05	0.07	0.09	0.11	0.13	0.16
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				53	243	535	920	1200	1500	1500
Arsenic, total (As)	17	17	>10	0	0		5	5	5	10	10	25	25
Cadmium, total (Cd)	17	17	>5	0	0		1	2	2	2	2	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	7	>3	6	35.3	99.9	2	2	2	2	5	7	10
Iron, total (Fe)	17	0	N/A				420	524	675	880	1250	6860	7900
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	6	>86	0	0		10	10	10	13	20	27	36

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
59	41	1	2	

Key:
result: number of observations
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 24 NR ICW
Station #: O9760000 **Hydrologic Unit Code:** 3020104
Latitude: 35.55093 **Longitude:** -76.46954 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 02/19/2003 to 08/15/2005

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	30	0	<5	3	10	64.7	2.2	4.8	5.9	8	9.6	11.3	13.1
pH (SU)	30	0	<6.8	9	30	100	6	6.1	6.5	6.9	7.2	7.4	7.6
	30	0	>8.5	0	0		6	6.1	6.5	6.9	7.2	7.4	7.6
Salinity (ppt)	30	0	N/A				0.44	0.69	1.9	3.77	6.7	8.35	9.14
Spec. conductance (umhos/cm at 25°C)	30	0	N/A				843	1309	3506	6796	11734	14407	15689
Water Temperature (°C)	30	0	>32	0	0		3	6.7	12.4	18.4	27.6	28.6	32

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 19 NR SCRANTON CRK
Station #: O9761000 **Hydrologic Unit Code:** 3020104
Latitude: 35.51711 **Longitude:** -76.49538 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 02/19/2003 to 08/15/2005

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	30	0	<5	0	0		5.8	6.5	6.9	8.9	10.1	12.3	13.9
pH (SU)	30	0	<6.8	7	23.3	99.2	6.5	6.6	6.8	7.1	7.3	7.8	8.3
	30	0	>8.5	0	0		6.5	6.6	6.8	7.1	7.3	7.8	8.3
Salinity (ppt)	30	0	N/A				0.59	1.28	3.38	4.75	7.77	8.51	10.15
Spec. conductance (umhos/cm at 25°C)	30	0	N/A				1115	2570	6112	8466	13482	14689	17289
Water Temperature (°C)	30	0	>32	0	0		3	6.5	12.1	18.2	27.4	29.6	31.7

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
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Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 14 NR HAYSTACK POINT
Station #: O9762000 **Hydrologic Unit Code:** 3020104
Latitude: 35.52159 **Longitude:** -76.55722 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 02/19/2003 to 08/15/2005

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	30	0	<5	0	0		6	6.6	7.5	8.6	10.3	12.1	13
pH (SU)	30	0	<6.8	4	13.3	82.5	6.7	6.7	6.9	7.2	7.4	7.9	8.3
	30	0	>8.5	0	0		6.7	6.7	6.9	7.2	7.4	7.9	8.3
Salinity (ppt)	30	0	N/A				0.76	1.85	3.96	4.98	8.62	9.91	10.17
Spec. conductance (umhos/cm at 25°C)	30	0	N/A				1449	3411	7103	8866	14829	16896	17318
Water Temperature (°C)	30	0	>32	1	3.3		3	6.4	12.3	18.3	27.3	29.3	32.4

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 1BC BETWEEN DURANTS POINT AND PANTEGO CRK
Station #: O976300C **Hydrologic Unit Code:** 3020104
Latitude: 35.52000 **Longitude:** -76.59000 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		6.1	6.5	6.9	9	11	12.1	13.7
pH (SU)	32	0	<6.8	1	3.1		6.7	6.8	7	7.2	7.4	8	8.1
	32	0	>8.5	0	0		6.7	6.8	7	7.2	7.4	8	8.1
Salinity (ppt)	32	0	N/A				1.37	2.76	4.97	5.69	9.62	10.21	13.71
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				2556	5018	8835	10046	16435	17378	22822
Water Temperature (°C)	32	0	>32	0	0		2	5.2	11.7	18.2	26.6	28.7	30.8

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV OFF DURANTS POINT
Station #: O976300E **Hydrologic Unit Code:** 3020104
Latitude: 35.51000 **Longitude:** -76.58000 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	31	0	<5	0	0		6.2	6.3	7.2	9.4	10.9	12.3	13
pH (SU)	31	0	<6.8	0	0		6.8	6.8	7	7.2	7.4	7.9	8.5
	31	0	>8.5	0	0		6.8	6.8	7	7.2	7.4	7.9	8.5
Salinity (ppt)	31	0	N/A				2.28	2.92	4.77	5.67	9.62	10.44	12.1
Spec. conductance (umhos/cm at 25°C)	31	0	N/A				4175	5305	8501	10017	16459	17778	20463
Water Temperature (°C)	31	0	>32	0	0		2	5.3	11.3	17.8	26.6	28.7	31

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV NR CM 6 AT MOUTH OF PANTEGO CRK
Station #: O976300W **Hydrologic Unit Code:** 3020104
Latitude: 35.53075 **Longitude:** -76.59832 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 02/19/2003 to 08/15/2005

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	31	0	<5	0	0		5.4	6	6.8	8.7	10.5	12	12.8
pH (SU)	31	0	<6.8	2	6.5		6	6.8	7	7.2	7.4	8	8.3
	31	0	>8.5	0	0		6	6.8	7	7.2	7.4	8	8.3
Salinity (ppt)	31	0	N/A				0.48	2.51	4.58	4.91	7.98	10.04	10.4
Spec. conductance (umhos/cm at 25°C)	31	0	N/A				942	4591	8182	8904	13826	17102	17732
Water Temperature (°C)	31	0	>32	0	0		2	6.6	12.9	18.8	26.9	29.3	30.9

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 7 NR WOODSTOCK POINT
Station #: O9764000 **Hydrologic Unit Code:** 3020104
Latitude: 35.48363 **Longitude:** -76.58672 **Stream class:** SB NSW
Agency: NCAMBNT **NC stream index:** 29-34-(12)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		6.1	6.7	7.2	9	11.4	12.3	12.7
pH (SU)	32	0	<6.8	0	0		6.8	6.9	7	7.4	7.7	8	8.4
	32	0	>8.5	0	0		6.8	6.9	7	7.4	7.7	8	8.4
Salinity (ppt)	32	0	N/A				1.5	2.84	5.64	6.33	9.87	11.16	14.22
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				2780	5164	9969	11125	16838	18870	23528
Water Temperature (°C)	32	0	>32	0	0		3	5.7	11.9	18.2	26.7	29	31.6

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT CM 4 NR SANDY POINT
Station #: O9765000 **Hydrologic Unit Code:** 3020104
Latitude: 35.44625 **Longitude:** -76.58116 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-34-(38)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	Percentiles 10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		6.6	7	7.6	9.3	11.4	12.3	13.2
pH (SU)	32	0	<6.8	0	0		6.9	6.9	7.1	7.4	7.9	8	8.6
	32	0	>8.5	1	3.1		6.9	6.9	7.1	7.4	7.9	8	8.6
Salinity (ppt)	32	0	N/A				2.27	4.14	6.35	7.31	10.83	11.51	15.28
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				4169	7435	11148	12724	18395	19413	25146
Water Temperature (°C)	32	0	>32	0	0		3	5.4	11.4	18.4	26.8	28.8	31
Nutrients (mg/L)													
NH3 as N	1	1	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.02
NO2 + NO3 as N	1	1	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.02
TKN as N	1	0	N/A				1.4	1.4	1.4	1.4	1.4	1.4	1.4
Total Phosphorus	1	0	N/A				0.13	0.13	0.13	0.13	0.13	0.13	0.13

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PUNGO RIV BETWEEN FORTESCUE CRK AND WRIGHT CRK MID CHANNEL
Station #: O976600C **Hydrologic Unit Code:** 3020104
Latitude: 35.42402 **Longitude:** -76.56078 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-34-(38)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		6.3	6.5	7.5	9.1	11.4	12.1	13.2
pH (SU)	32	0	<6.8	0	0		6.9	6.9	7.1	7.4	7.9	8	8.2
	32	0	>8.5	0	0		6.9	6.9	7.1	7.4	7.9	8	8.2
Salinity (ppt)	32	0	N/A				2.41	4.66	6.81	7.78	10.99	11.93	15.13
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				4400	8312	11913	13519	18591	20062	24970
Water Temperature (°C)	32	0	>32	0	0		3	5.6	11.5	18.6	26.8	28.9	30.8

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT MOUTH OF FORTESCUE CRK
Station #: O976600E **Hydrologic Unit Code:** 3020104
Latitude: 35.42906 **Longitude:** -76.53981 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-34-(38)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		6.3	6.7	7.2	8.8	11.4	11.9	12.9
pH (SU)	32	0	<6.8	0	0		6.9	7	7.1	7.4	7.8	8	8.2
	32	0	>8.5	0	0		6.9	7	7.1	7.4	7.8	8	8.2
Salinity (ppt)	32	0	N/A				2.98	5.01	6.64	7.85	11	11.99	15.39
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				5413	8898	11638	13734	18616	20160	25355
Water Temperature (°C)	32	0	>32	0	0		3	5.7	11.4	18.4	26.6	29.3	30.8

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PUNGO RIV AT MARKER 2WC AT MOUTH OF WRIGHT CRK
Station #: O976600W **Hydrologic Unit Code:** 3020104
Latitude: 35.41738 **Longitude:** -76.58401 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-34-(38)

Time period: 01/22/2003 to 08/15/2005

	# results	# ND	Results not meeting EL				Percentiles						
			EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	32	0	<5	0	0		5.9	6.2	6.8	9.1	11.3	12	12.9
pH (SU)	32	0	<6.8	0	0		6.8	6.8	7	7.4	7.7	7.9	8
	32	0	>8.5	0	0		6.8	6.8	7	7.4	7.7	7.9	8
Salinity (ppt)	32	0	N/A				2.69	5	6.52	7.58	10.76	11.96	14.96
Spec. conductance (umhos/cm at 25°C)	32	0	N/A				4930	8907	11439	13295	18266	20106	24665
Water Temperature (°C)	32	0	>32	0	0		3	5.6	11.3	18.5	26.5	28.8	30.6

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PAMLICO RIV BETWEEN MOUTHS OF PUNGO RIV AND GOOSE CRK MID CHANNEL
Station #: O982500C **Hydrologic Unit Code:** 3020104
Latitude: 35.36185 **Longitude:** -76.58059 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-(27)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	114	0	<5	0	0		6.2	7.3	8	9.1	11.1	12.2	15.3
pH (SU)	114	0	<6.8	1	0.9		5.5	7.3	7.6	7.9	8.1	8.3	8.8
	114	0	>8.5	5	4.4		5.5	7.3	7.6	7.9	8.1	8.3	8.8
Salinity (ppt)	114	0	N/A				2.81	5.27	7.24	9.14	11.53	13.97	21.9
Spec. conductance (umhos/cm at 25°C)	114	0	N/A				5121	9344	12614	15660	19468	23185	34922
Water Temperature (°C)	114	0	>32	1	0.9		2	7.2	10.8	19.4	26.3	28.6	33.5
Other													
Chlorophyll a (ug/L)	104	0	>40	4	3.8		1	6	9	12	23	33	98
TSS (mg/L)	19	0	N/A				3	5	6.2	10	14	23	26
Turbidity (NTU)	116	0	>25	1	0.9		1	2.1	2.7	3.7	5.2	9.2	26
Nutrients (mg/L)													
NH3 as N	115	106	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.06
NO2 + NO3 as N	115	96	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.2
TKN as N	115	0	N/A				0.3	0.46	0.51	0.6	0.66	0.77	1.7
Total Phosphorus	115	0	N/A				0.02	0.04	0.04	0.05	0.06	0.08	0.15
Metals (ug/L)													
Aluminum, total (Al)	17	2	N/A				50	50	88	120	160	238	270
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	38	50	50
Cadmium, total (Cd)	17	17	>5	0	0		1	1	2	2	10	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	10	25	25	25	25	25
Copper, total (Cu)	17	9	>3	5	29.4	99.5	2	2	2	3	10	16	22
Iron, total (Fe)	17	3	N/A				50	50	52	100	140	292	300
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>86	0	0		10	10	10	10	11	16	18

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:	Median	# > 43	% > 43	%Conf
116	1	0	0		1	2	2	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
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Location: PAMLICO RIV BETWEEN MOUTHS OF PUNGO RIV AND GOOSE CRK N SHORE
Station #: O982500N **Hydrologic Unit Code:** 3020104
Latitude: 35.37737 **Longitude:** -76.55960 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-(27)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	Results not meeting EL EL	#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	0	0		5.8	7.4	7.8	9	11.1	12.1	13.6
pH (SU)	116	0	<6.8	1	0.9		5.5	7.2	7.5	7.8	8.1	8.3	9
	116	0	>8.5	3	2.6		5.5	7.2	7.5	7.8	8.1	8.3	9
Salinity (ppt)	116	0	N/A				2.85	5.56	7.4	9.14	11.85	14.65	21.97
Spec. conductance (umhos/cm at 25°C)	116	0	N/A				3542	9363	12807	15734	19907	24265	35033
Water Temperature (°C)	116	0	>32	0	0		2.7	6.9	11	19.6	26.5	28.7	31.7
Other													
TSS (mg/L)	19	2	N/A				2.5	5	7	9	20	53	54
Turbidity (NTU)	117	2	>25	1	0.9		1	2.1	2.8	3.9	5.7	8.5	27
Nutrients (mg/L)													
NH3 as N	116	102	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.06
NO2 + NO3 as N	116	89	N/A				0.02	0.02	0.02	0.02	0.02	0.03	0.22
TKN as N	116	0	N/A				0.3	0.47	0.51	0.61	0.72	0.82	1
Total Phosphorus	116	0	N/A				0.02	0.03	0.04	0.05	0.06	0.08	0.13
Metals (ug/L)													
Aluminum, total (Al)	16	1	N/A				50	62	145	190	250	390	670
Arsenic, total (As)	16	16	>10	0	0		5	5	5	8	25	50	50
Cadmium, total (Cd)	16	16	>5	0	0		1	2	2	10	10	10	10
Chromium, total (Cr)	16	16	>20	0	0		10	20	25	25	25	25	25
Copper, total (Cu)	16	13	>3	3	18.8	93.2	2	2	2	2	10	10	10
Iron, total (Fe)	16	2	N/A				50	50	78	115	150	274	470
Lead, total (Pb)	16	16	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	15	15	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	16	16	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	16	12	>86	0	0		10	10	10	10	11	14	17

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:	Median	# > 43	% > 43	%Conf
117	1	0	0		1	1	1	

Key:
result: number of observations
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Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: PAMLICO RIV BETWEEN MOUTHS OF PUNGO RIV AND GOOSE CRK S SHORE
Station #: O982500S **Hydrologic Unit Code:** 3020104
Latitude: 35.34017 **Longitude:** -76.59578 **Stream class:** SA HQW NSW
Agency: NCAMBNT **NC stream index:** 29-(27)

Time period: 01/14/2003 to 12/18/2007

	# results	# ND	EL	Results not meeting EL #	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	116	0	<5	0	0		6.2	7.2	7.9	9	11.2	12.7	13.8
pH (SU)	116	0	<6.8	1	0.9		5.5	7.2	7.5	7.8	8.1	8.3	9
	116	0	>8.5	5	4.3		5.5	7.2	7.5	7.8	8.1	8.3	9
Salinity (ppt)	116	0	N/A				1.84	5.07	6.88	8.78	11.28	13.73	20.95
Spec. conductance (umhos/cm at 25°C)	116	0	N/A				3395	9009	12035	15144	19066	22818	33496
Water Temperature (°C)	116	0	>32	1	0.9		2.2	6.8	10.7	19.3	26.1	29	32.8
Other													
Chlorophyll a (ug/L)	1	0	>40	0	0		8	8	8	8	8	8	8
TSS (mg/L)	20	0	N/A				3.2	4.1	7.2	14	22	24	26
Turbidity (NTU)	117	1	>25	1	0.9		1	2.5	3.3	4.2	6.5	8.7	40
Nutrients (mg/L)													
NH3 as N	116	109	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.1
NO2 + NO3 as N	116	98	N/A				0.02	0.02	0.02	0.02	0.02	0.02	0.88
TKN as N	116	0	N/A				0.34	0.46	0.52	0.6	0.71	0.8	1.3
Total Phosphorus	116	0	N/A				0.02	0.04	0.04	0.05	0.06	0.09	0.18
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				60	67	102	180	205	338	370
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	18	50	50
Cadmium, total (Cd)	17	17	>5	0	0		2	2	2	10	10	10	10
Chromium, total (Cr)	17	17	>20	0	0		10	22	25	25	25	25	25
Copper, total (Cu)	17	15	>3	0	0		2	2	2	2	10	10	10
Iron, total (Fe)	17	6	N/A				50	50	50	87	140	206	230
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	16	16	>0.025	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>8.3	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	12	>86	0	0		10	10	10	10	12	17	26

Fecal Coliform Screening (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:	Median	# > 43	% > 43	%Conf
117	2	0	0		1	2	2	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Appendix B: Station Box & Whisker Plots

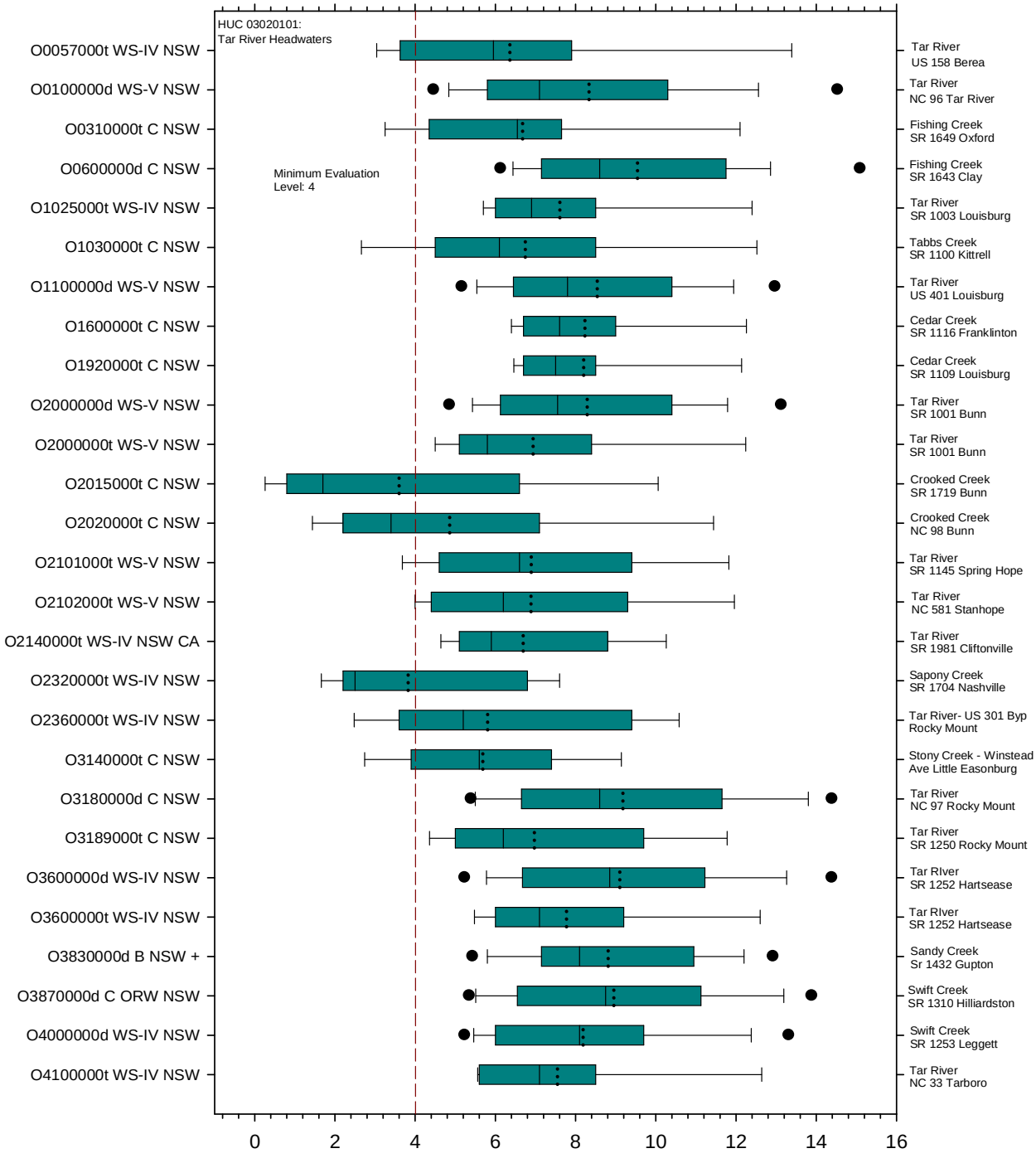

Figure 15. Box Plots of Dissolved Oxygen in the Tar River Headwaters HUC

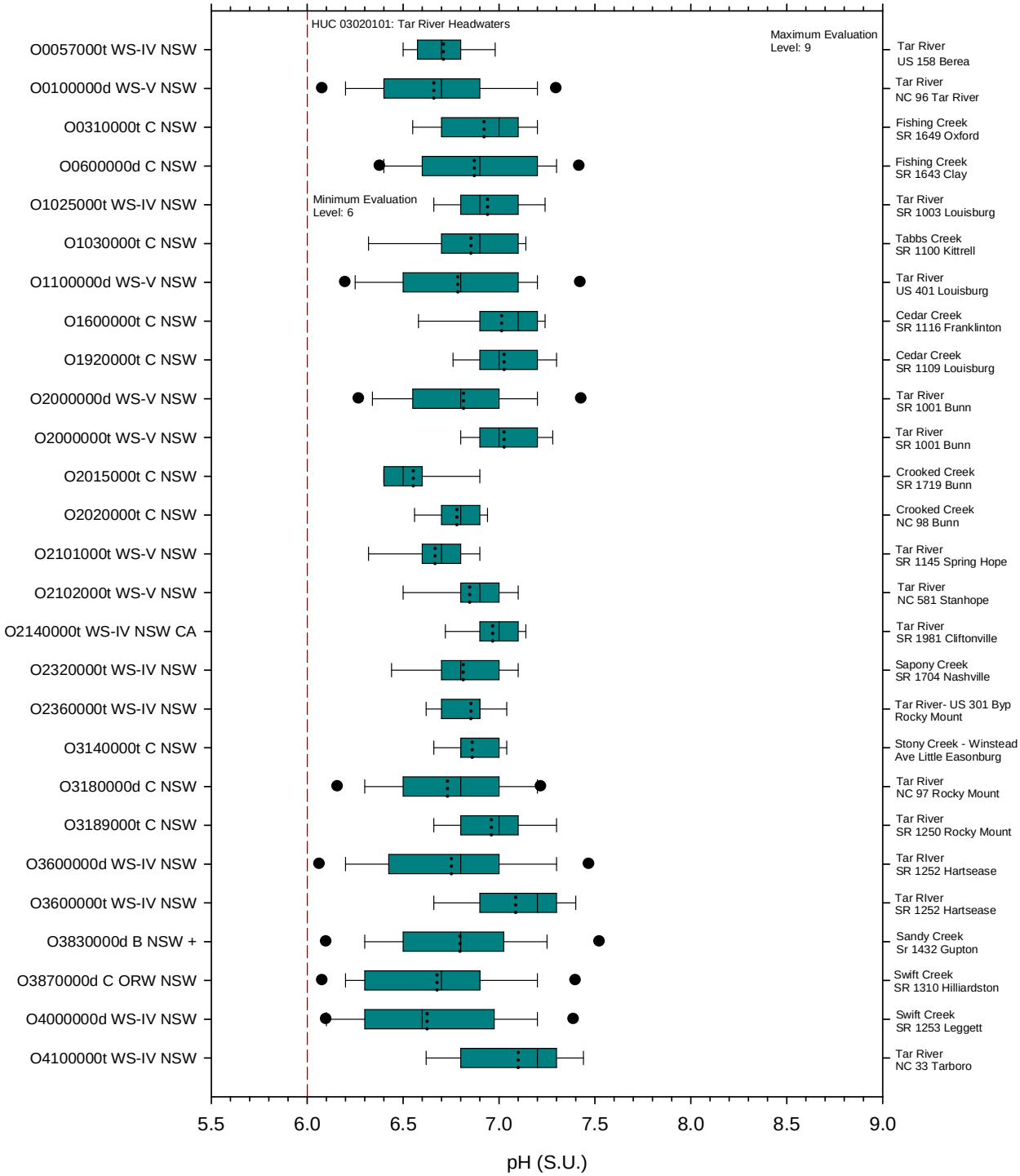

Figure 16. Box Plots of pH in the Tar River Headwaters HUC

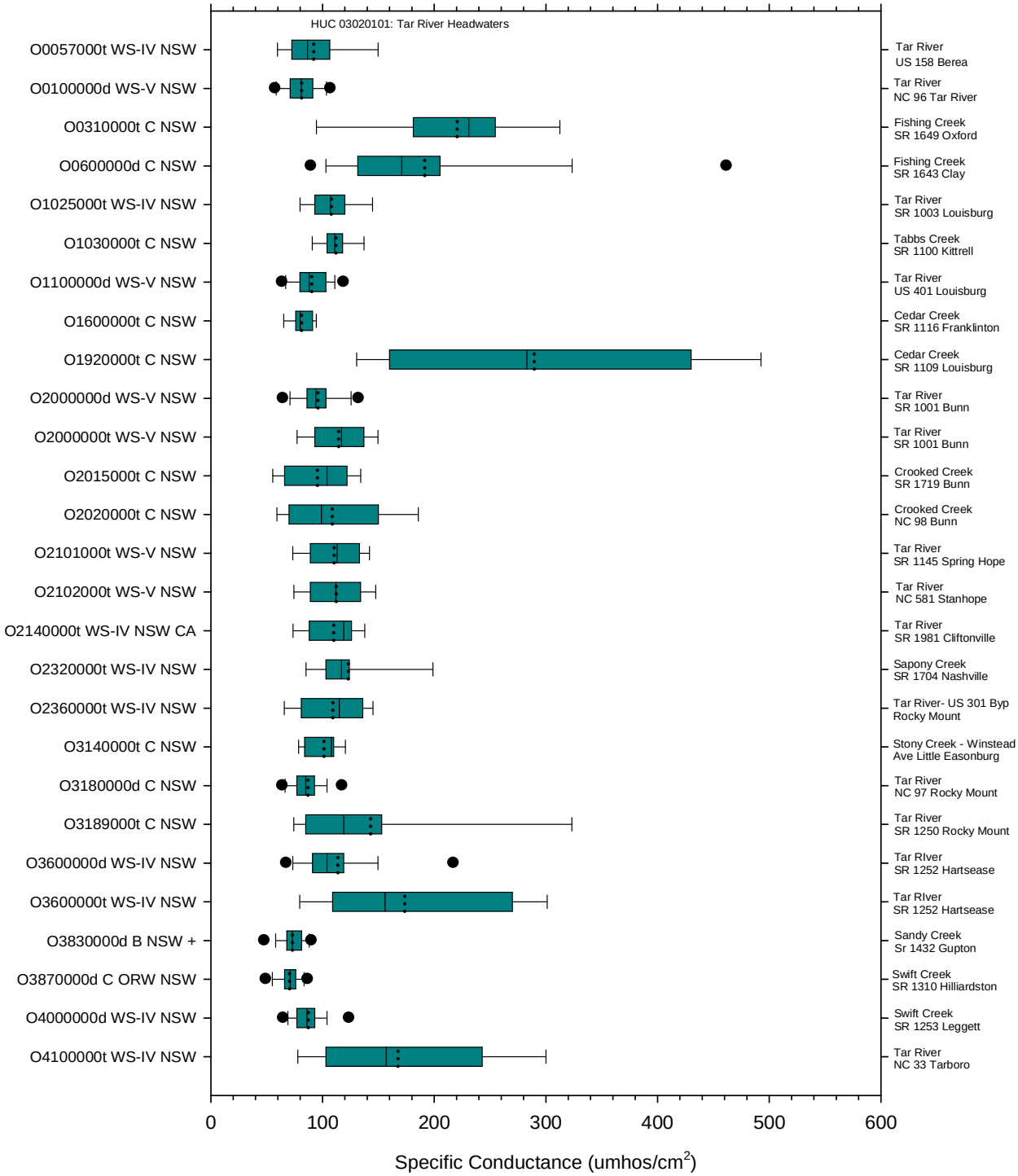

Figure 17. Box Plots of Specific Conductance in the Tar River Headwaters HUC

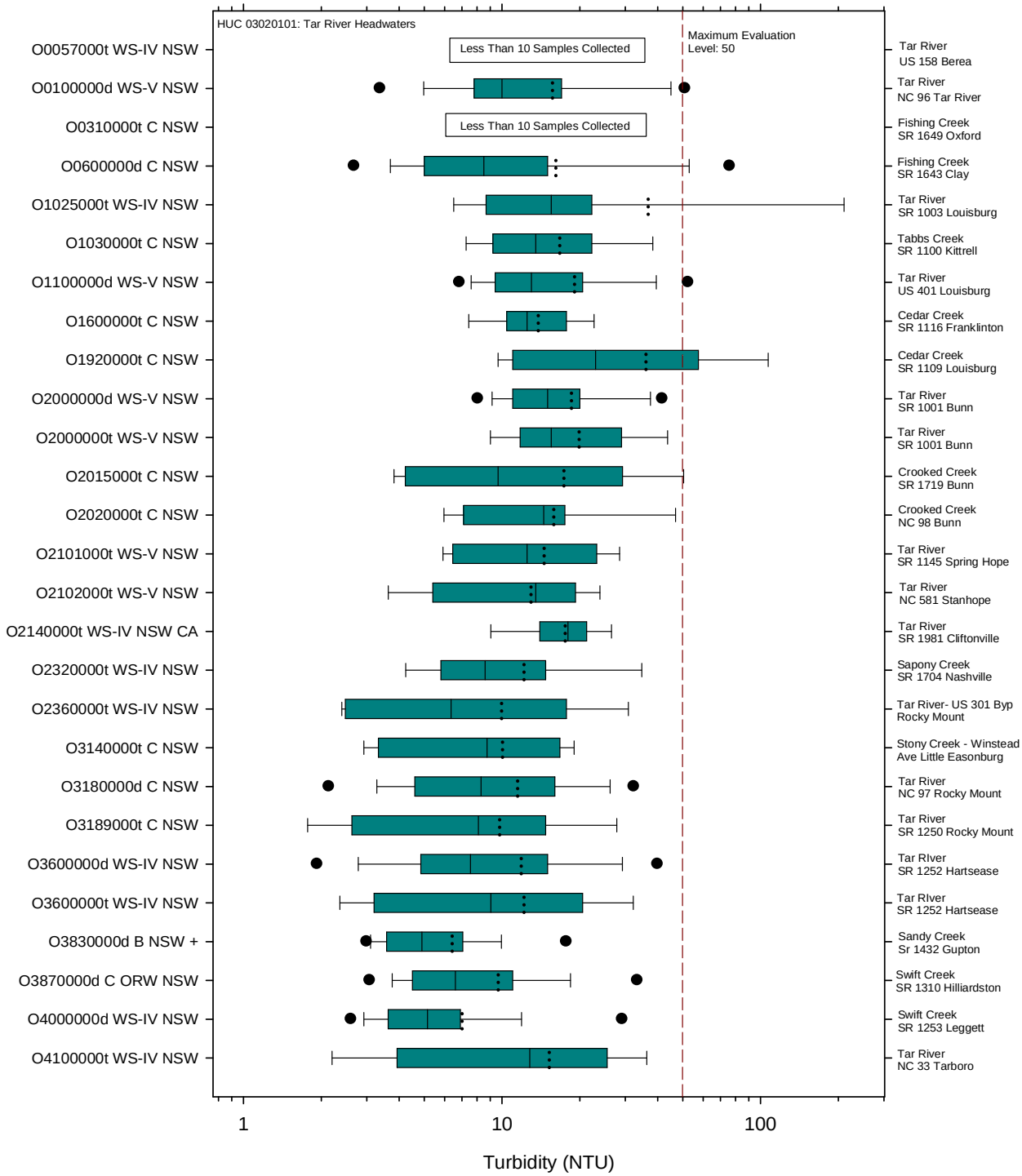

Figure 18. Box Plots of Turbidity in the Tar River Headwaters HUC

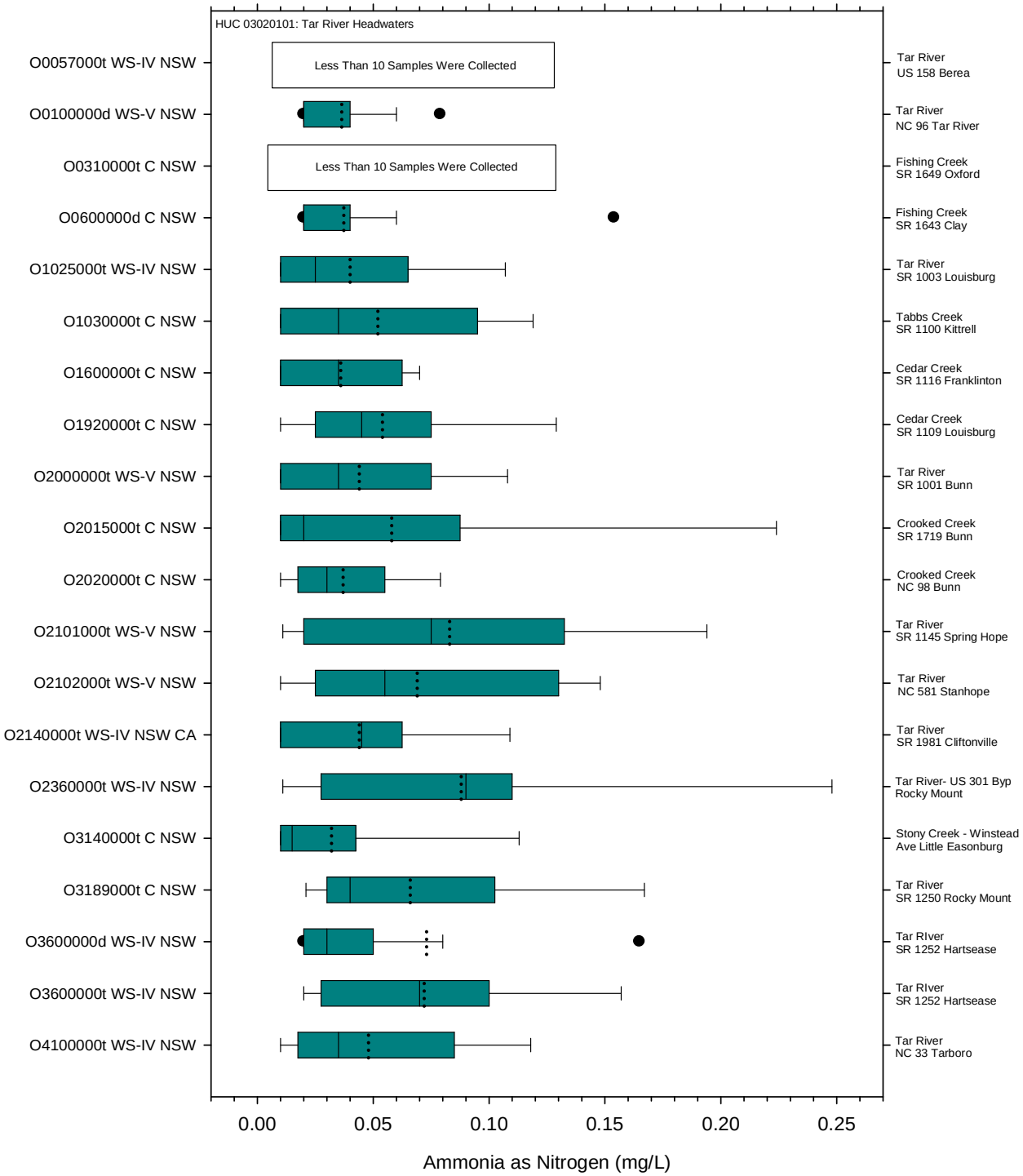

Figure 19. Box Plots of Ammonia as Nitrogen in the Tar River Headwaters HUC

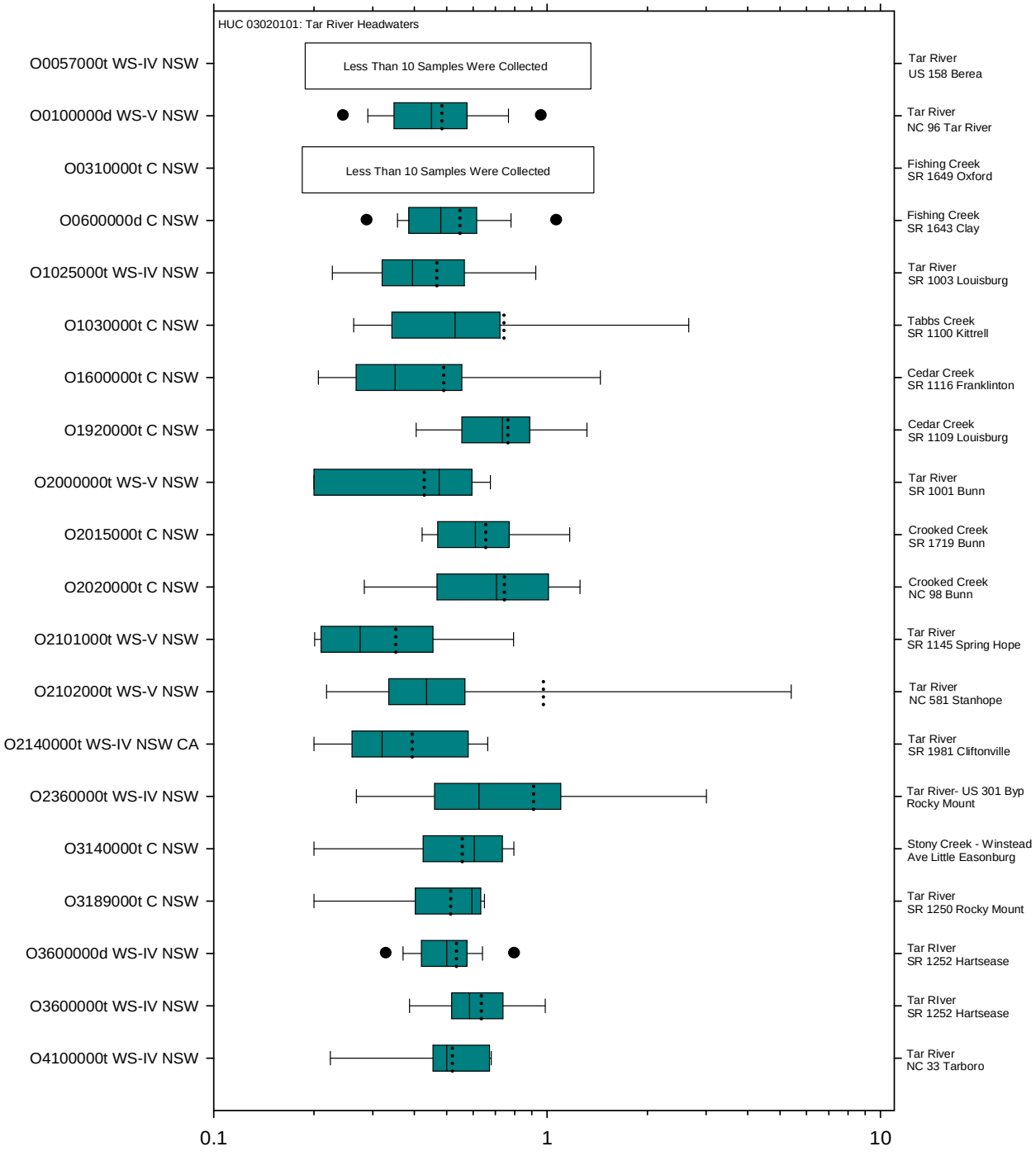

Figure 20. Box Plots of Total Kjeldahl Nitrogen in the Tar River Headwaters HUC

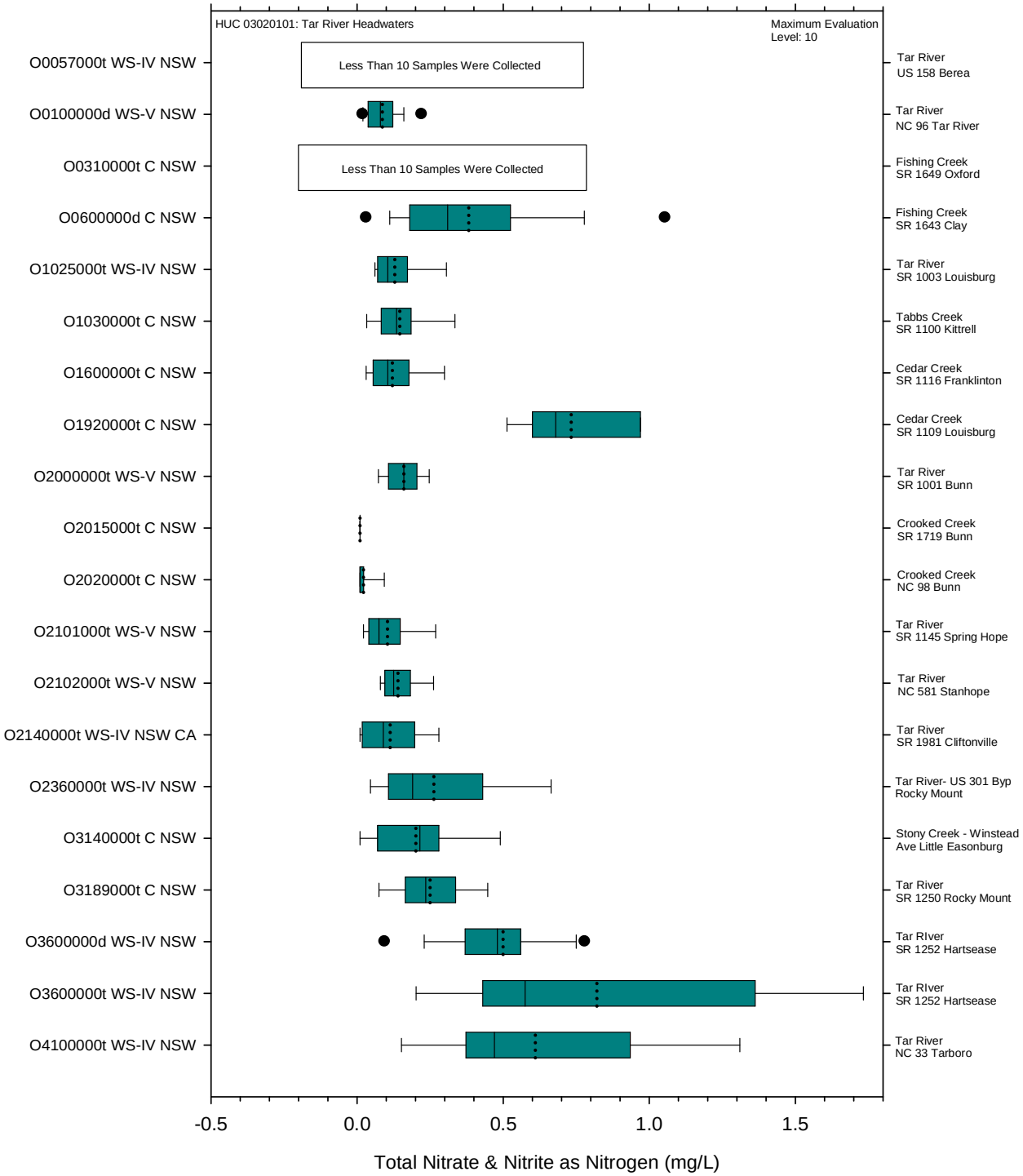

Figure 21. Box Plots of Total Nitrate & Nitrite as Nitrogen in the Tar River Headwaters HUC

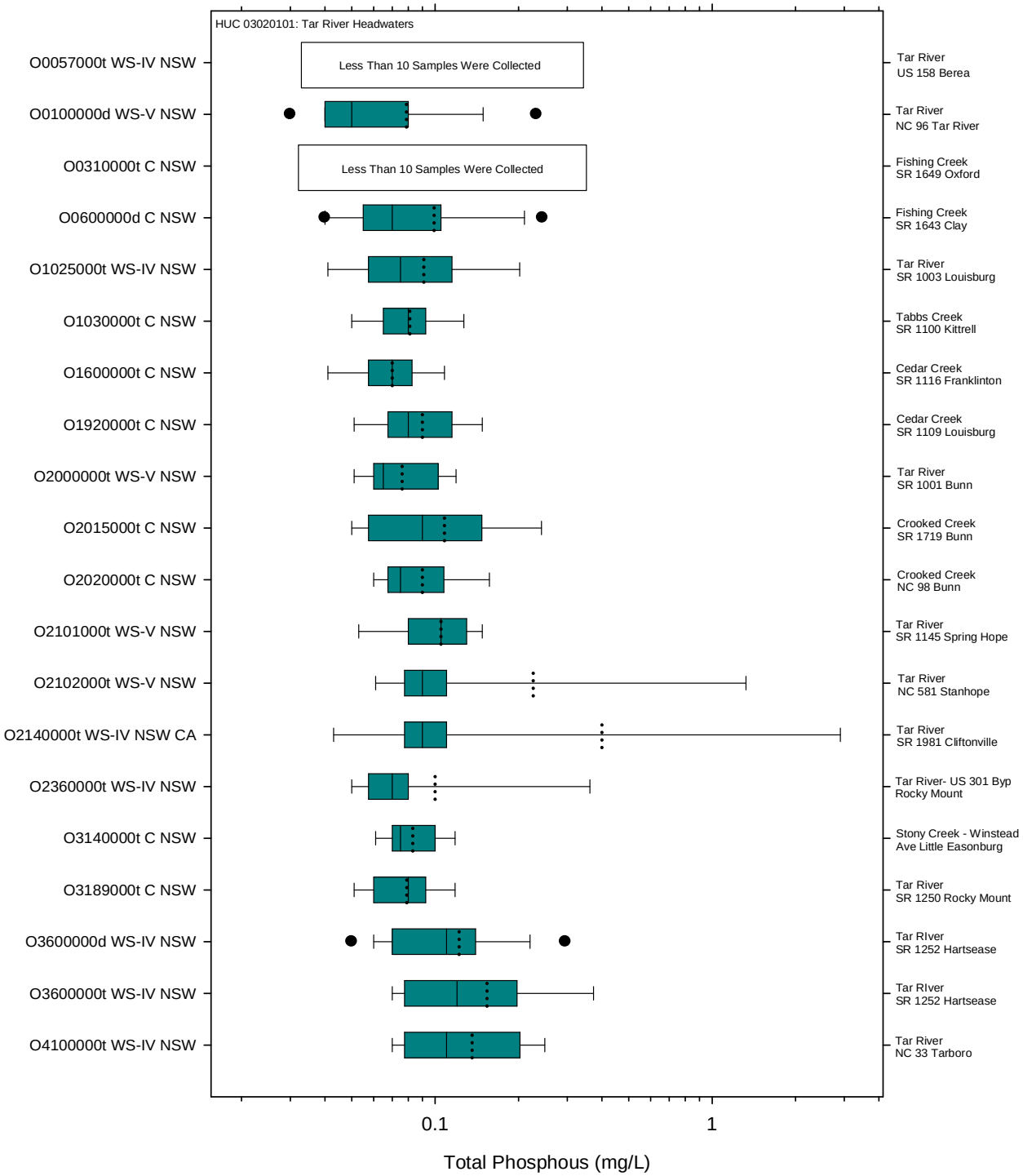

Figure 22. Box Plots of Total Phosphorus in the Tar River Headwaters HUC

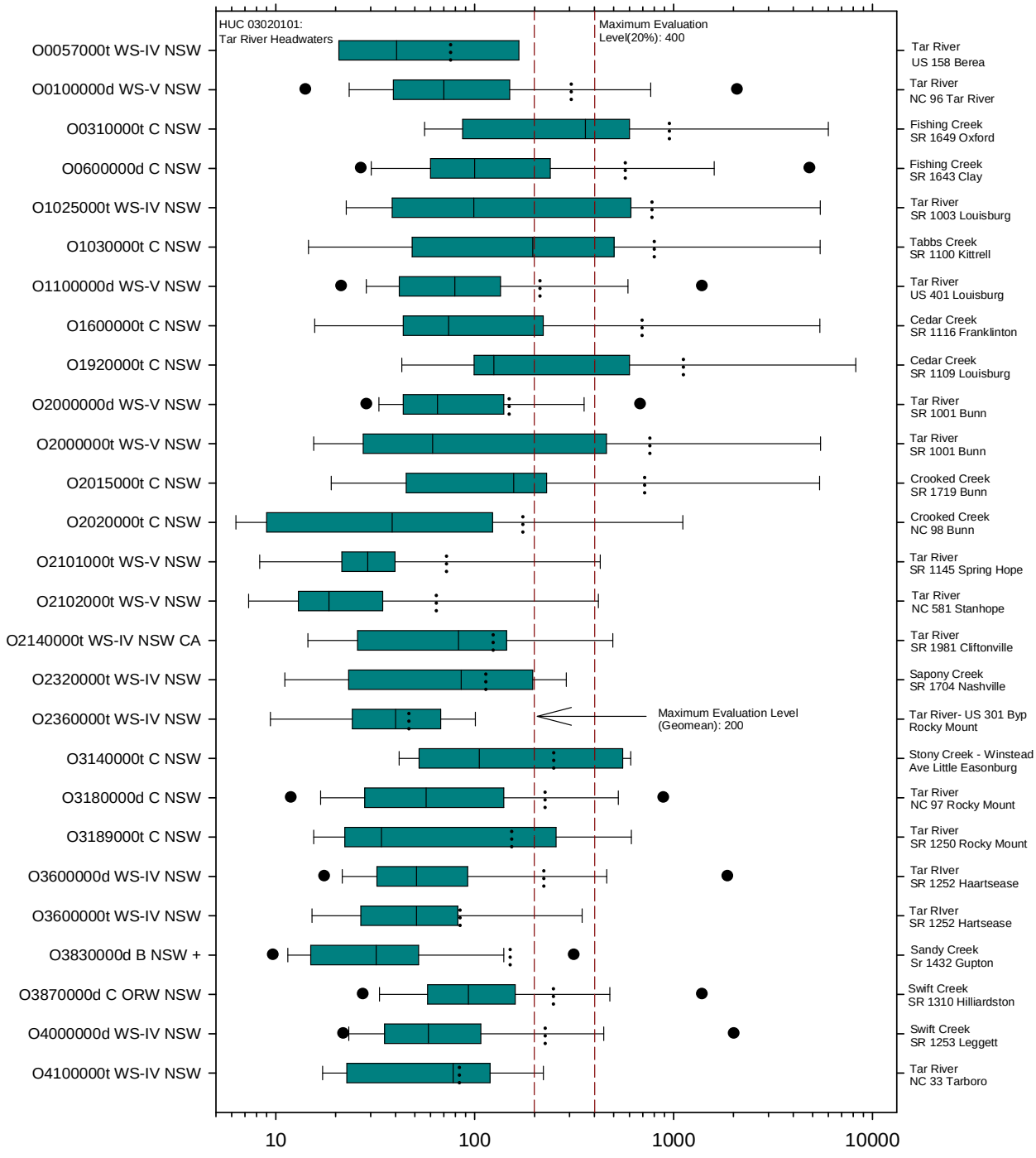

Figure 23. Box Plots of Fecal Coliform in the Tar River Headwaters HUC

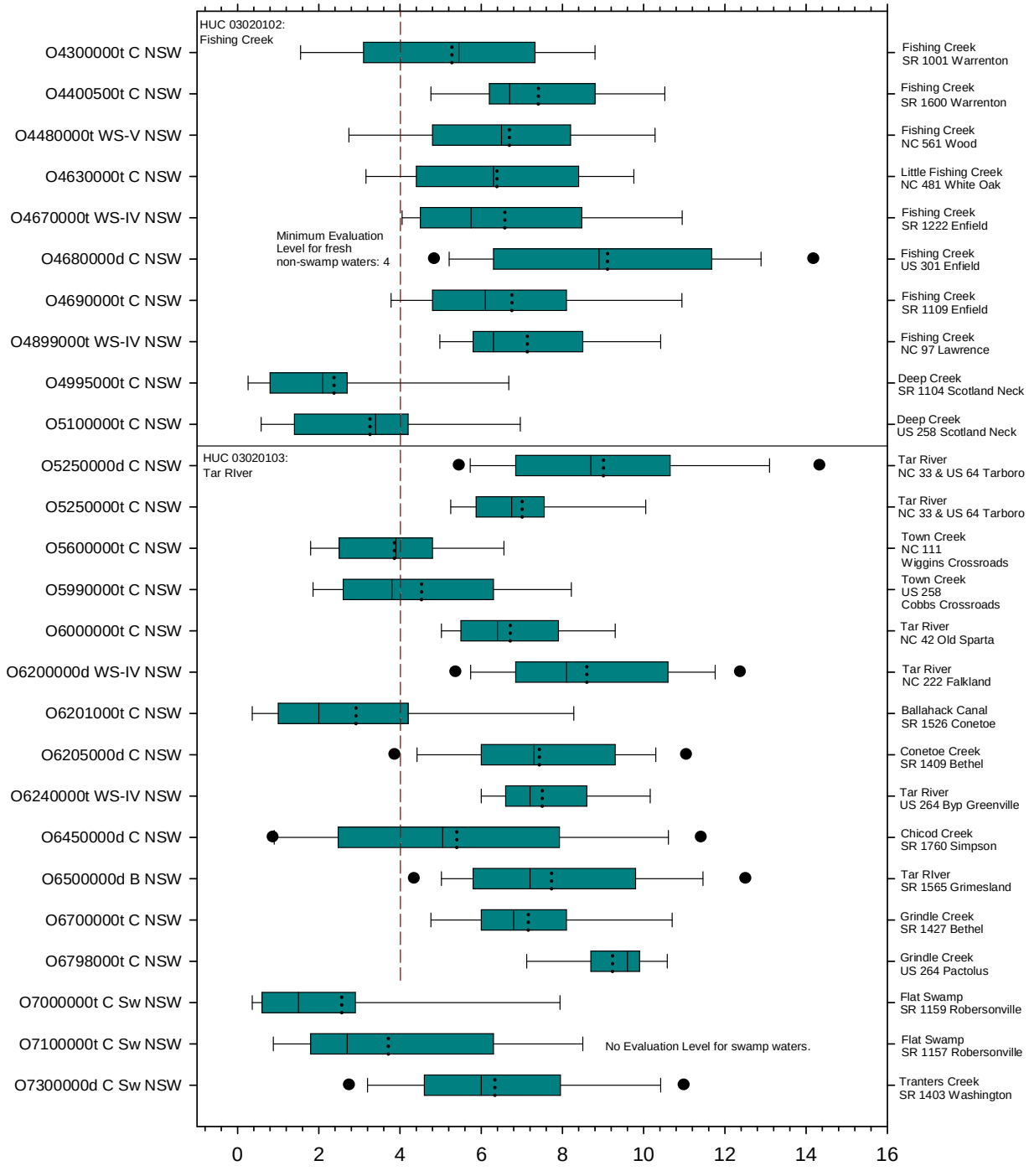

Figure 24. Box Plots of Dissolved Oxygen in the Fishing Creek/Tar River HUCs

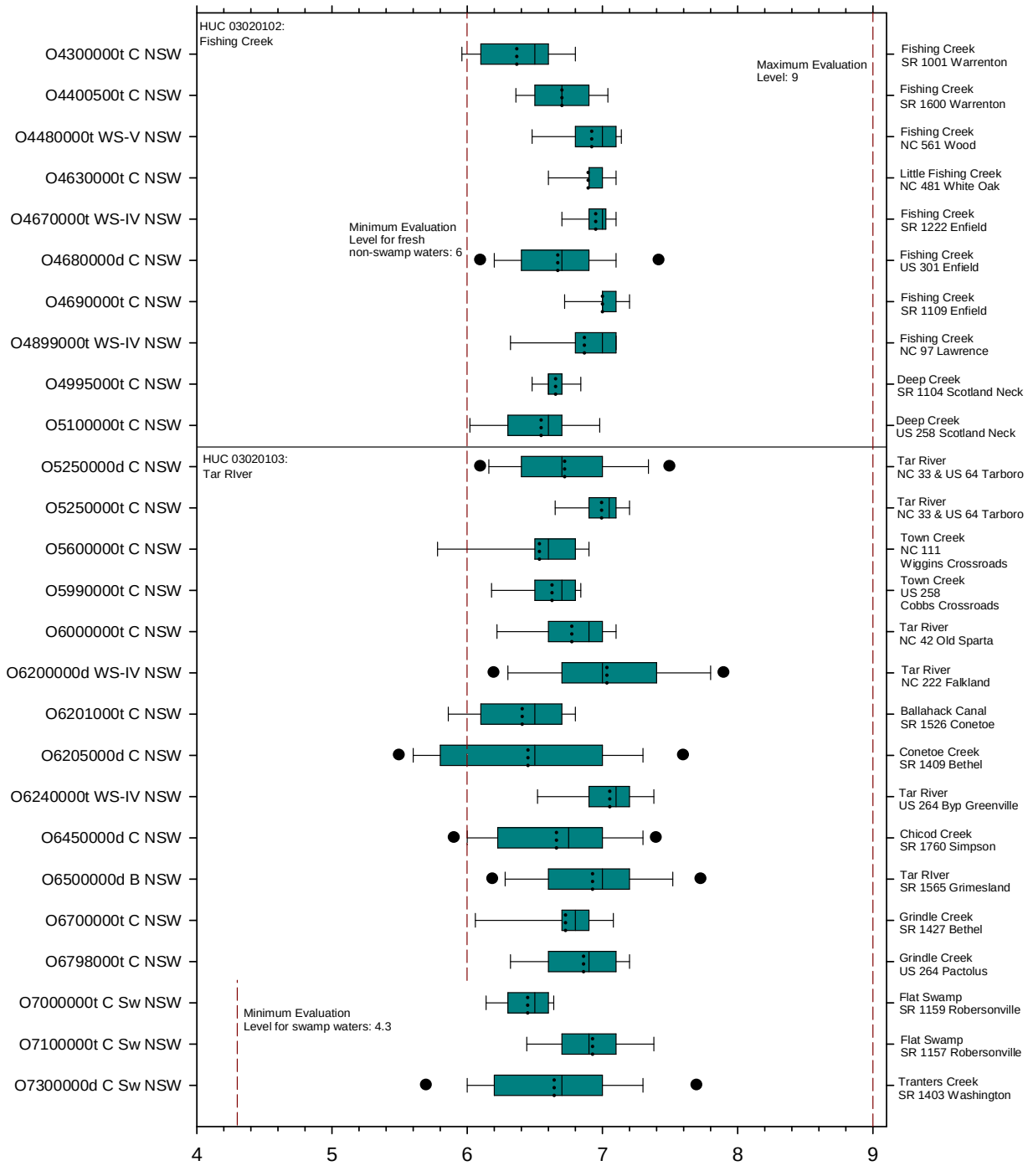

Figure 25. Box Plots of pH in the Fishing Creek/Tar River HUCs

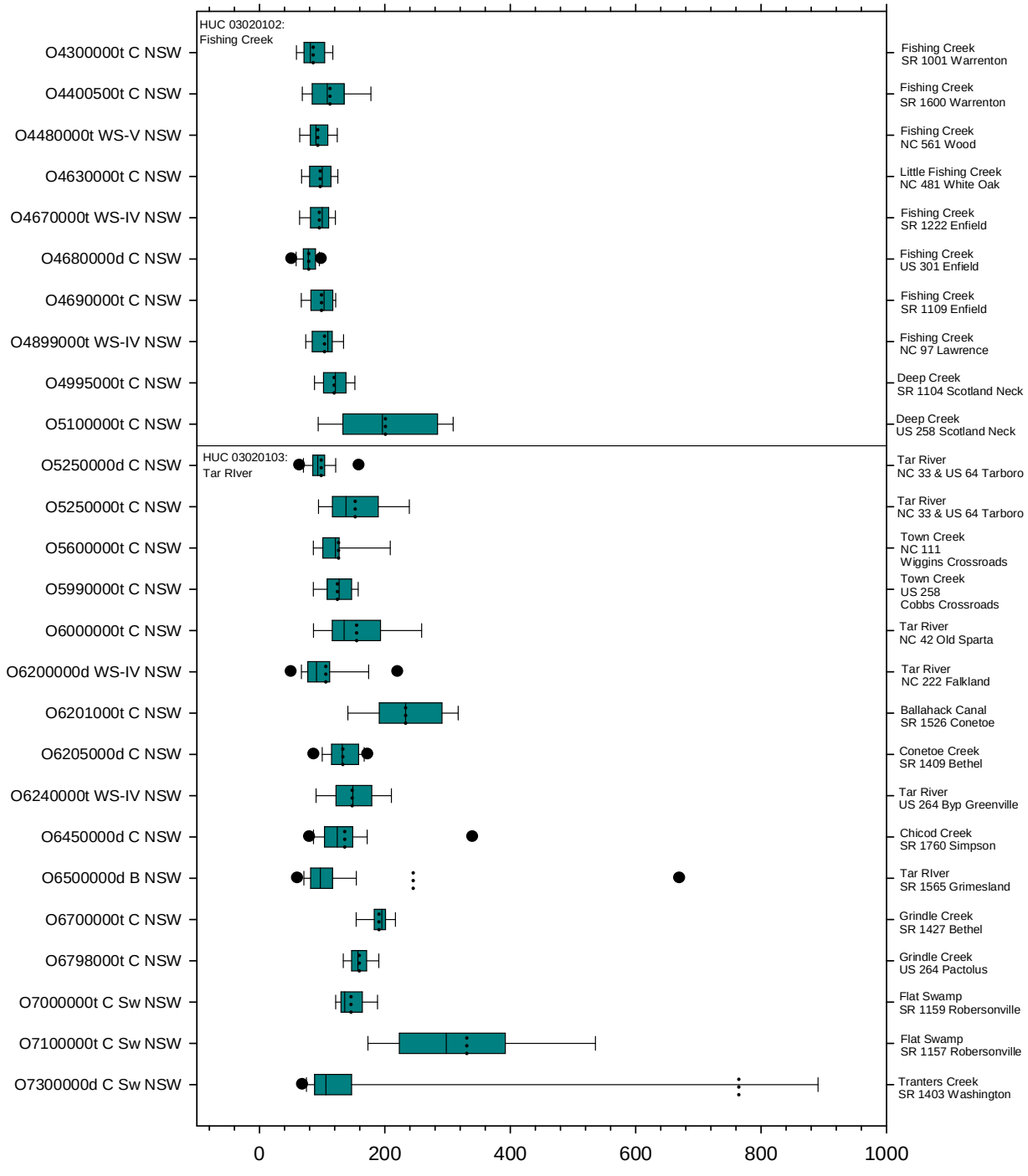

Figure 26. Box Plots of Specific Conductance in the Fishing Creek/Tar River HUCs

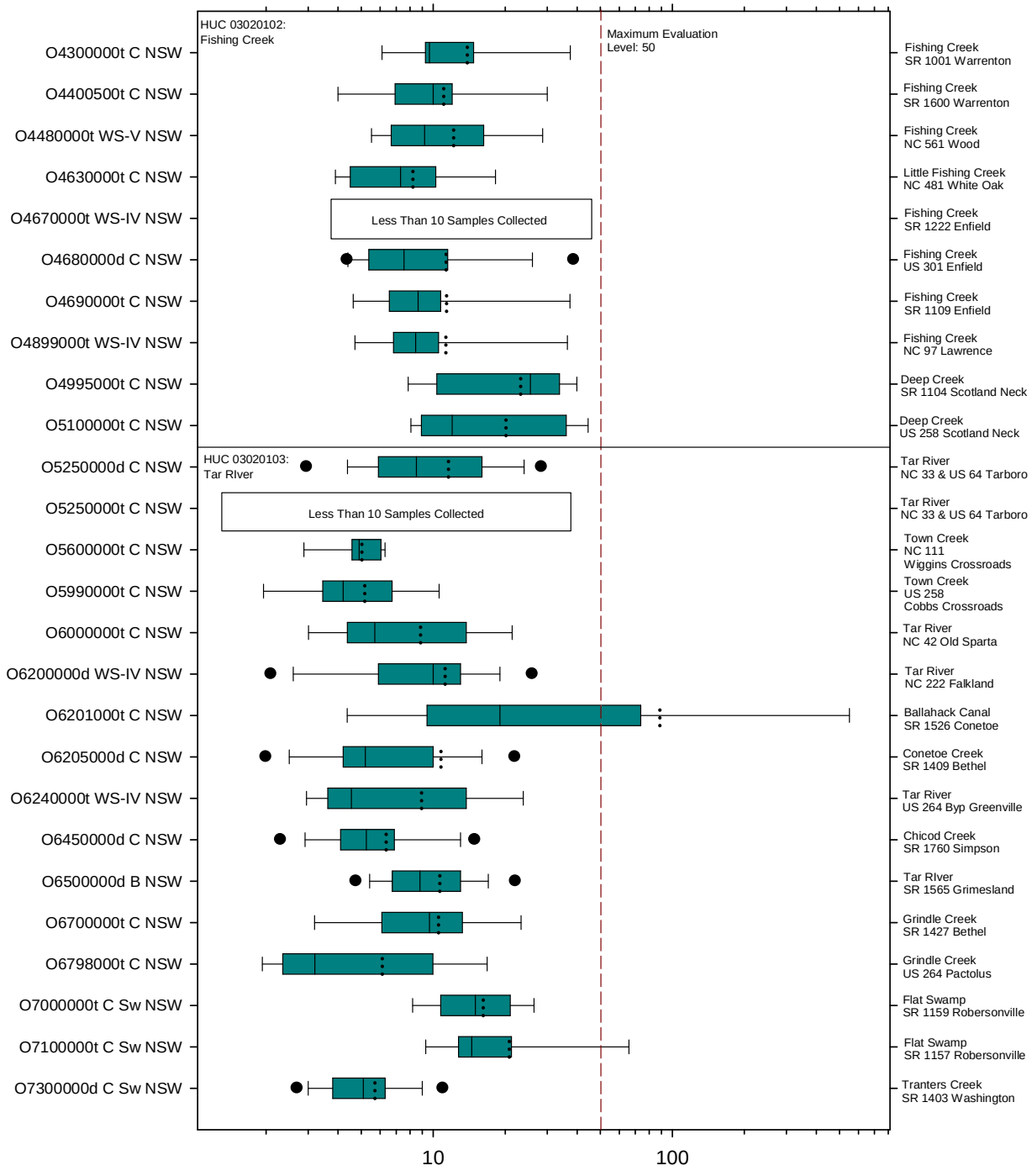

Figure 27. Box Plots of Turbidity in the Fishing Creek/Tar River HUCs

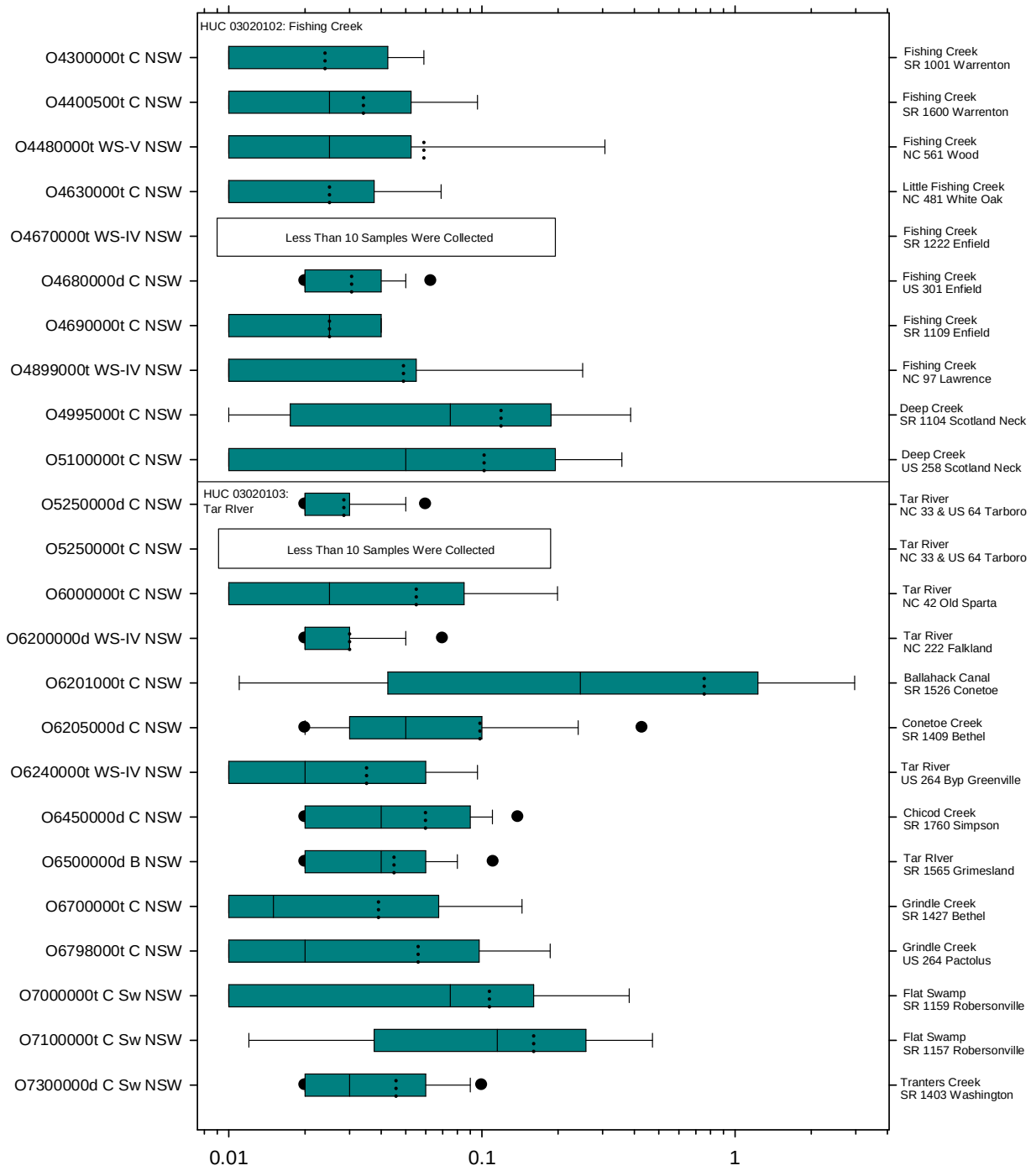

Figure 28. Box Plots of Ammonia as Nitrogen in the Fishing Creek/Tar River HUCs

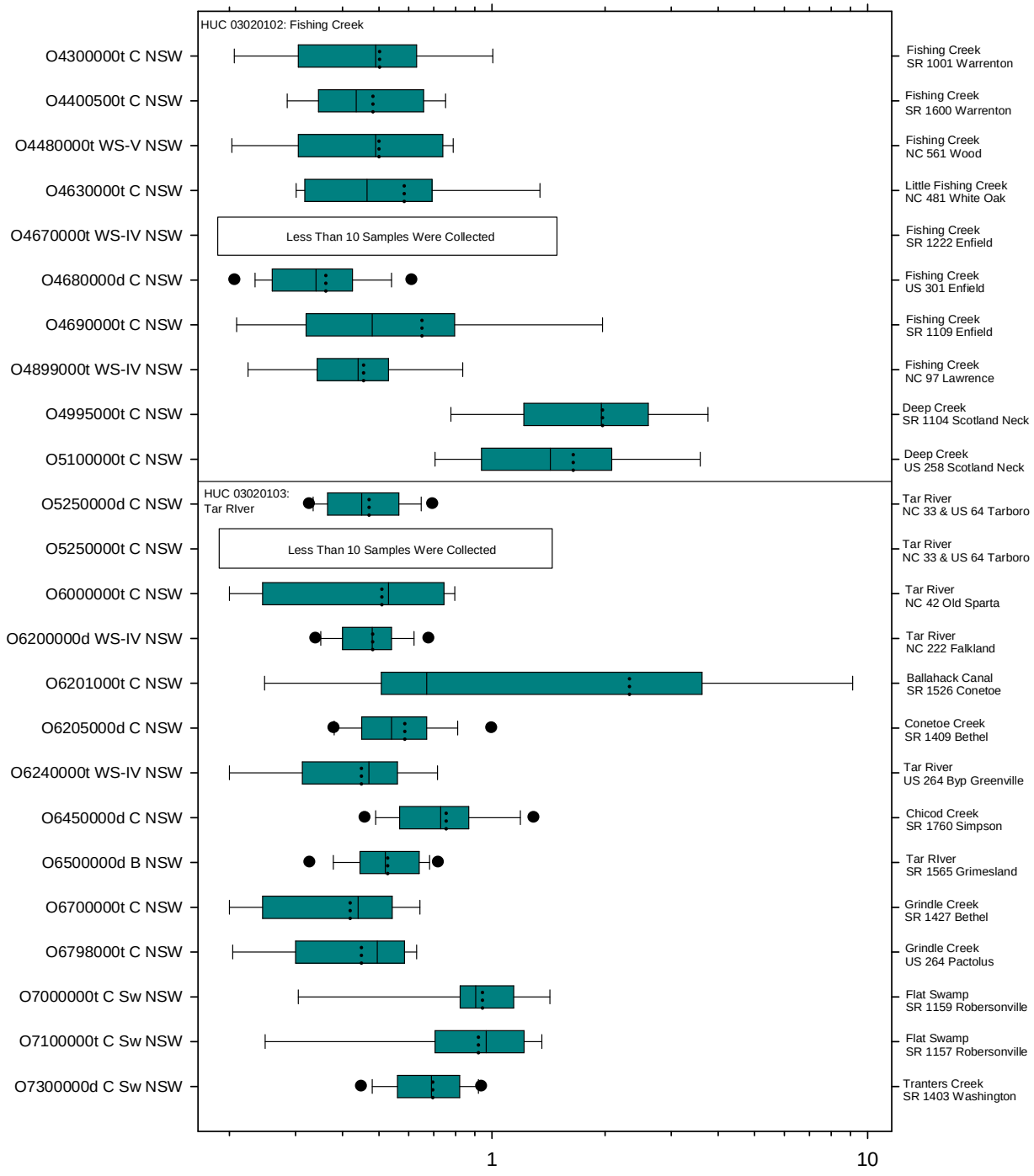

Figure 29. Box Plots of Total Kjeldahl Nitrogen in the Fishing Creek/Tar River HUCs

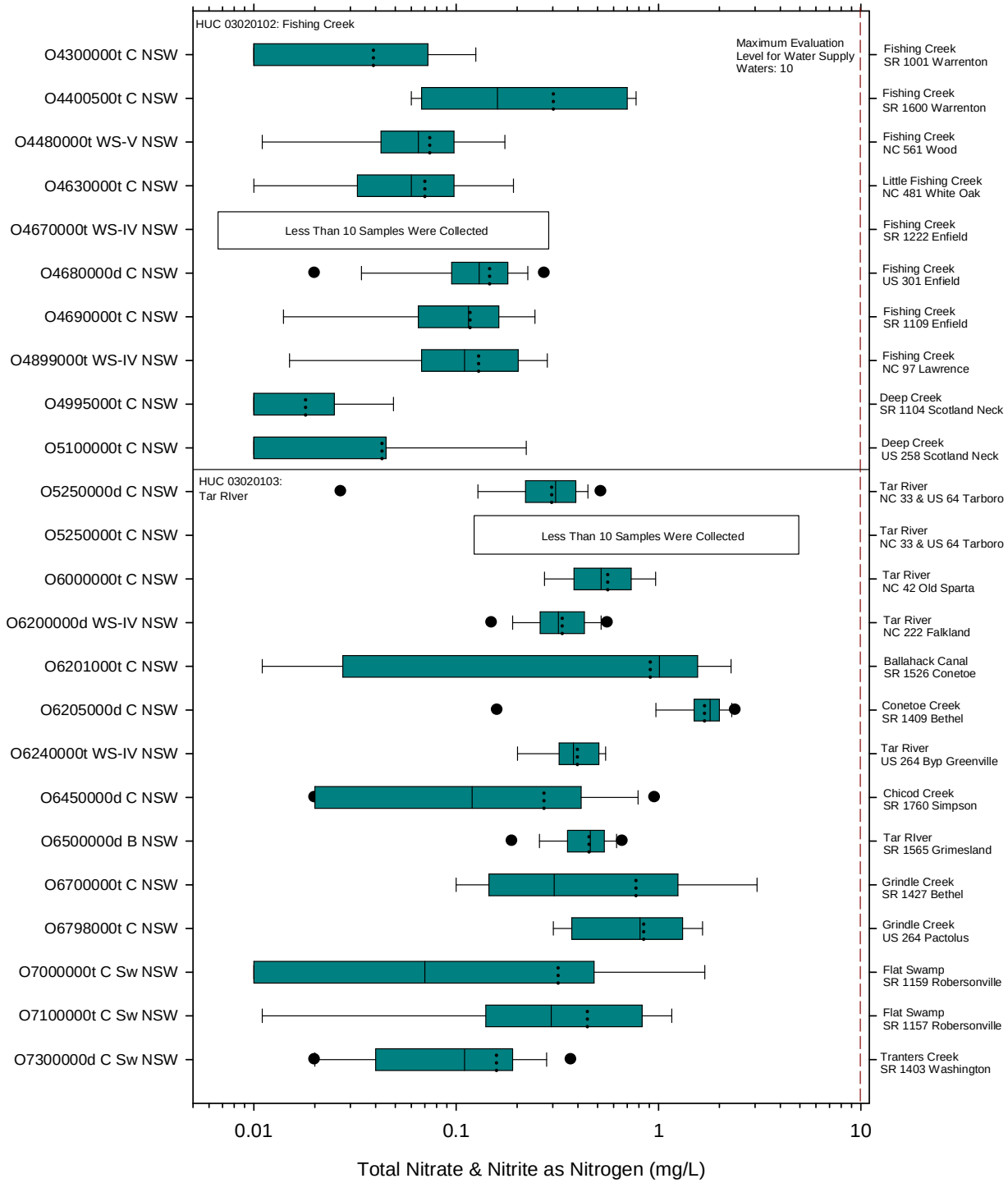

Figure 30. Box Plots of Total Nitrate & Nitrite as Nitrogen in the Fishing Creek/Tar River HUCs

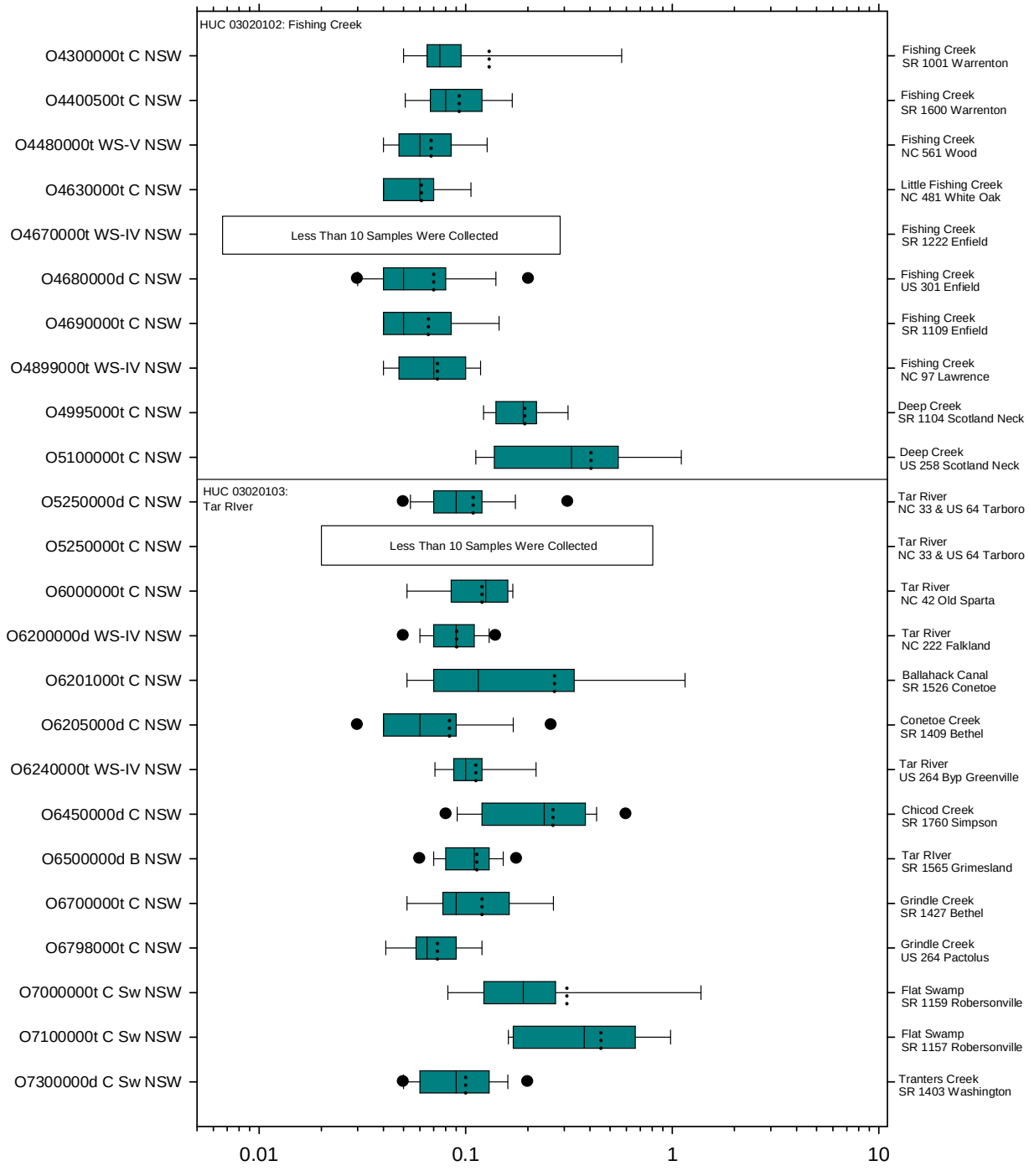

Figure 31. Box Plots of Total Phosphorus in the Fishing Creek/Tar River HUCs

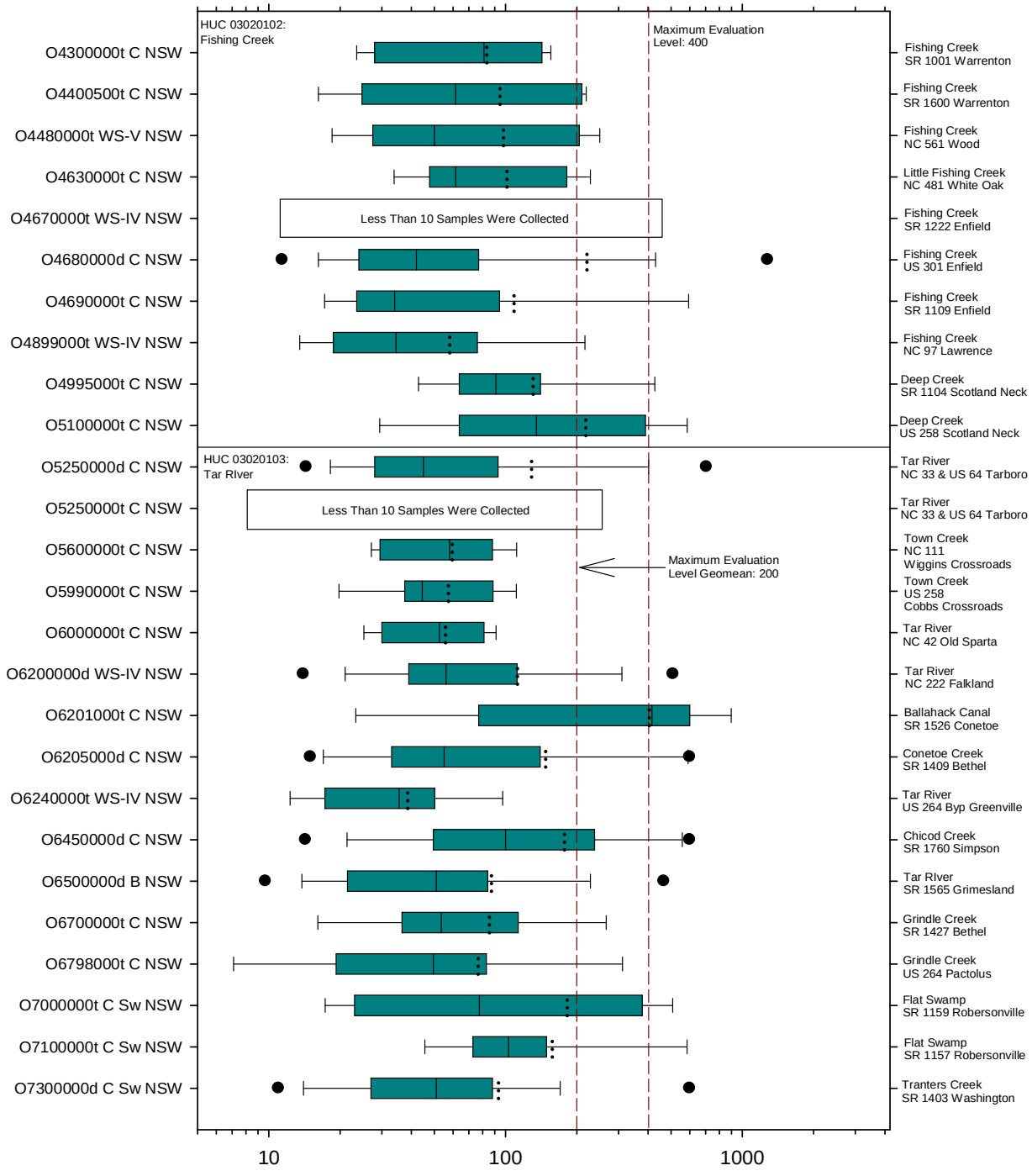

Figure 32. Box Plots of Fecal Coliform in the Fishing Creek/Tar River HUCs

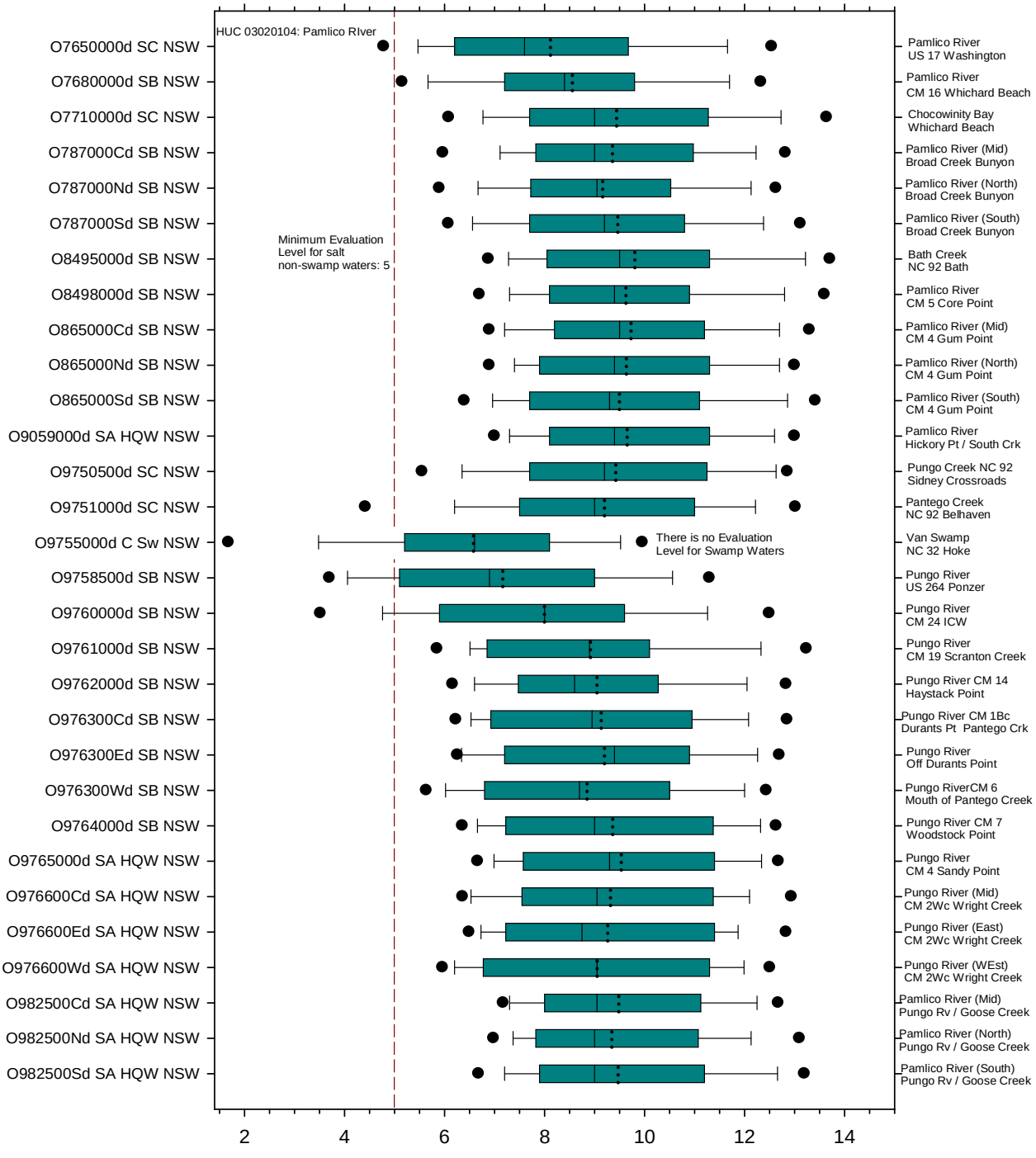

Figure 33. Box Plots of Dissolved Oxygen in the Pamlico River HUC

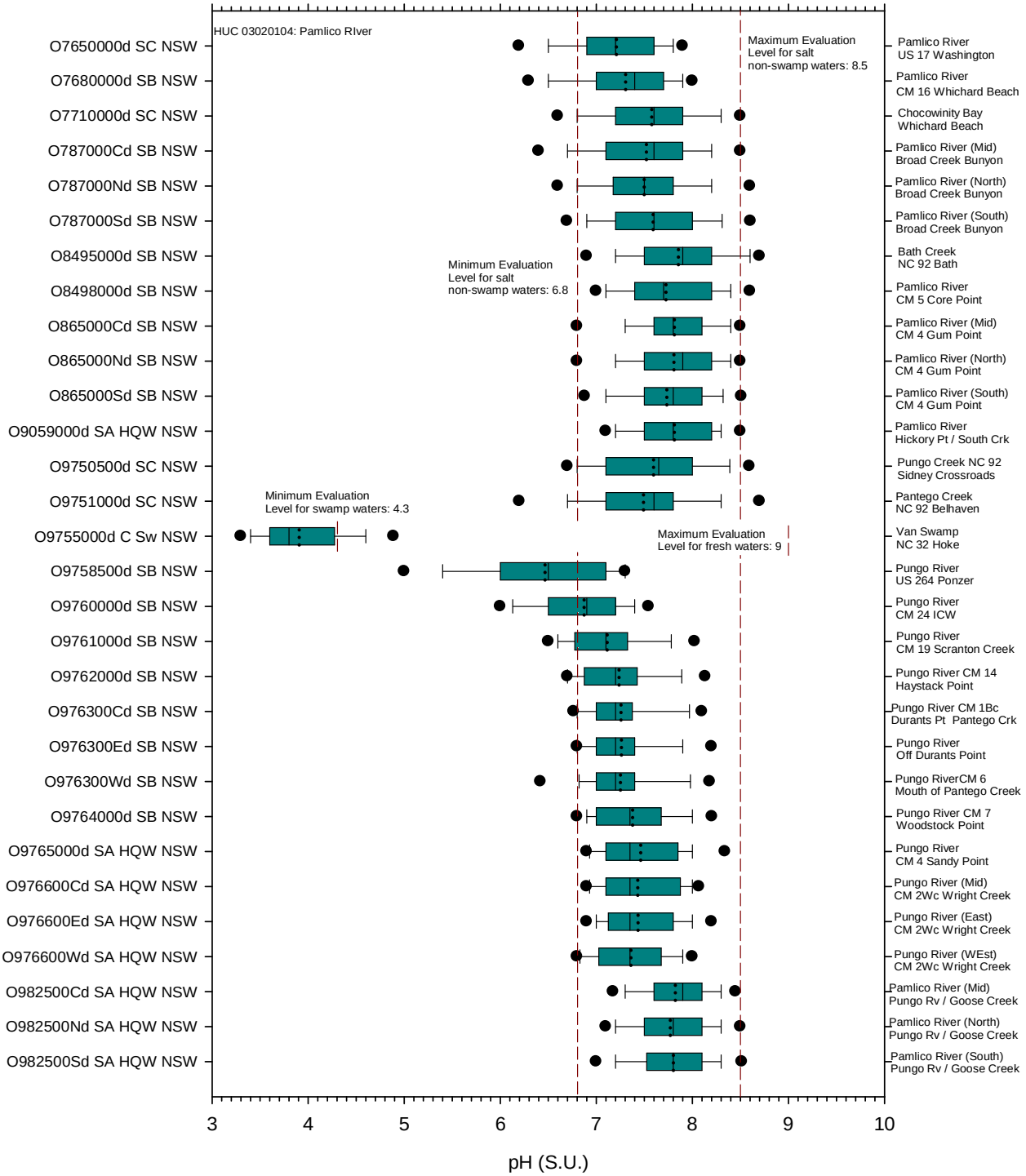

Figure 34. Box Plots of pH in the Pamlico River HUC

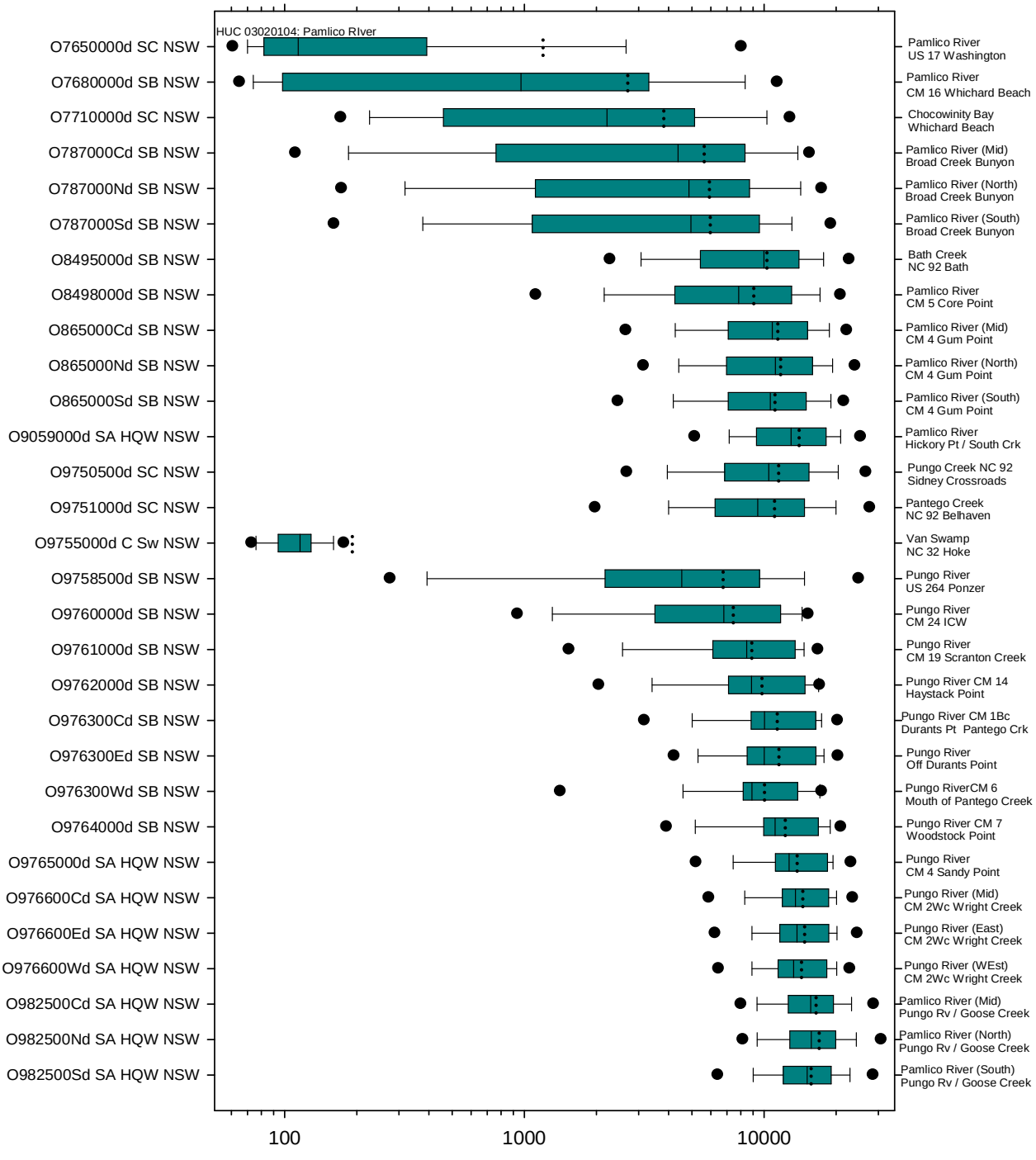

Figure 35. Box Plots of Specific Conductance in the Pamlico River HUC

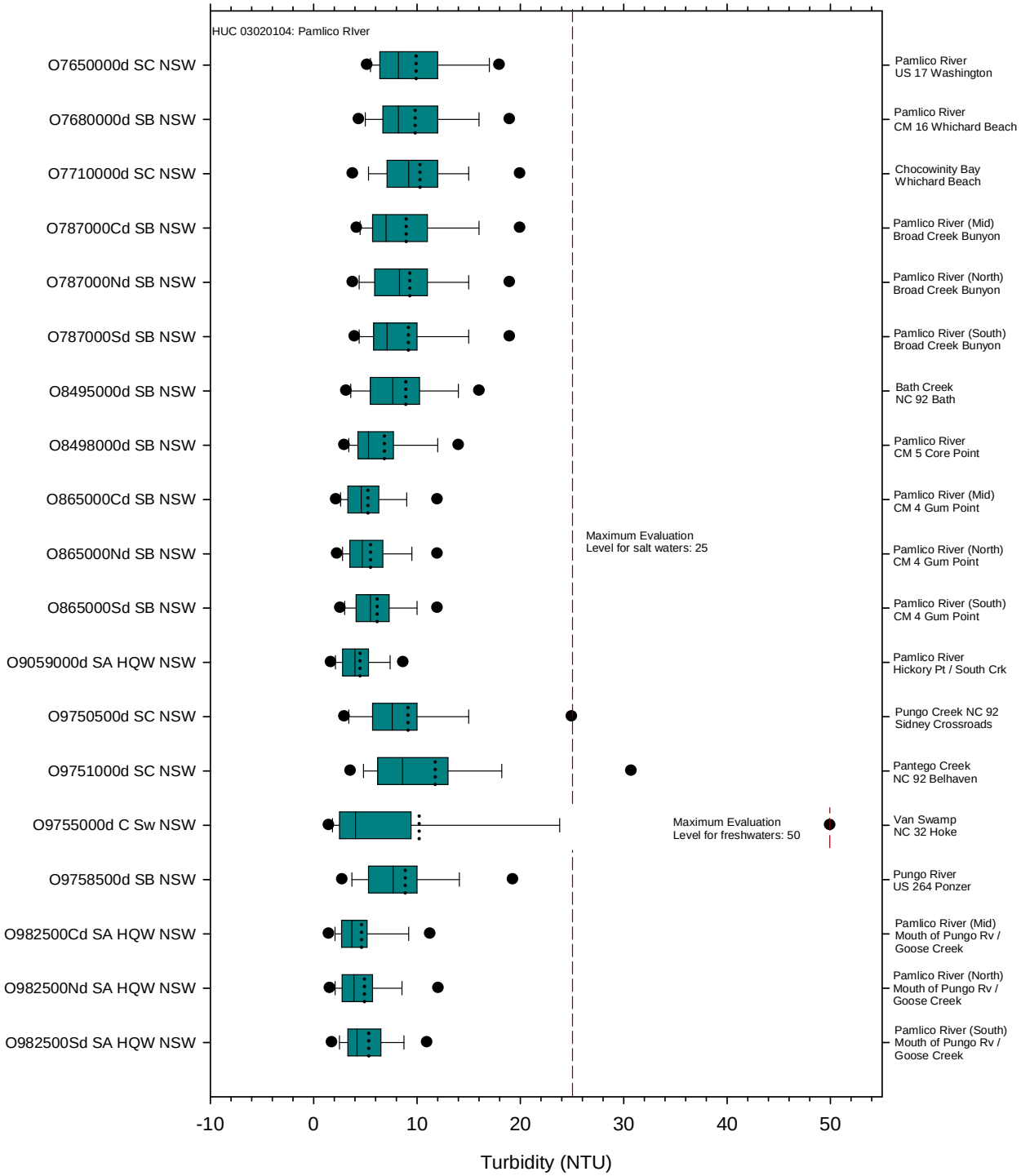

Figure 36. Box Plots of Turbidity in the Pamlico River HUC

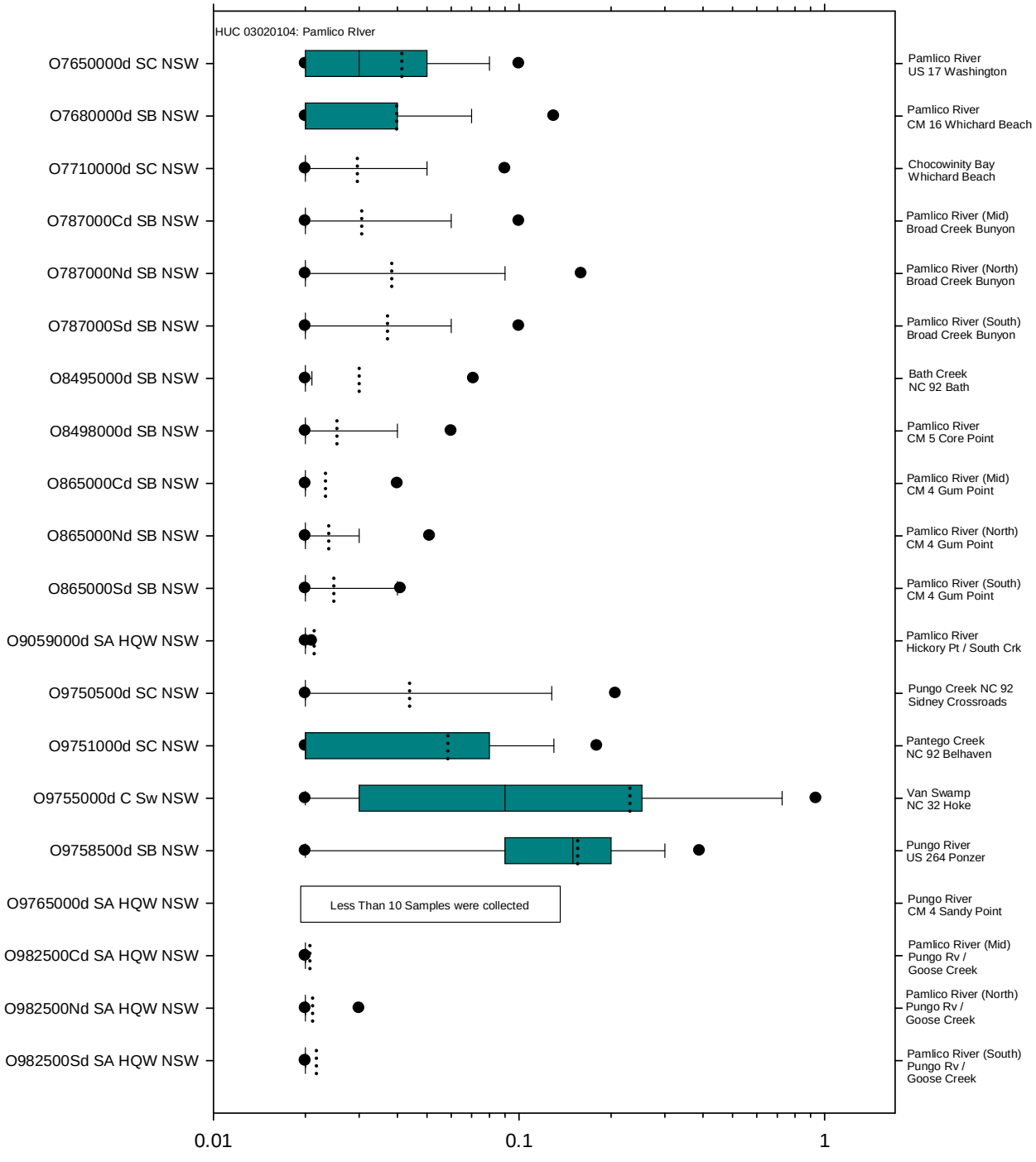

Figure 37. Box Plots of Ammonia as Nitrogen in the Pamlico River HUC

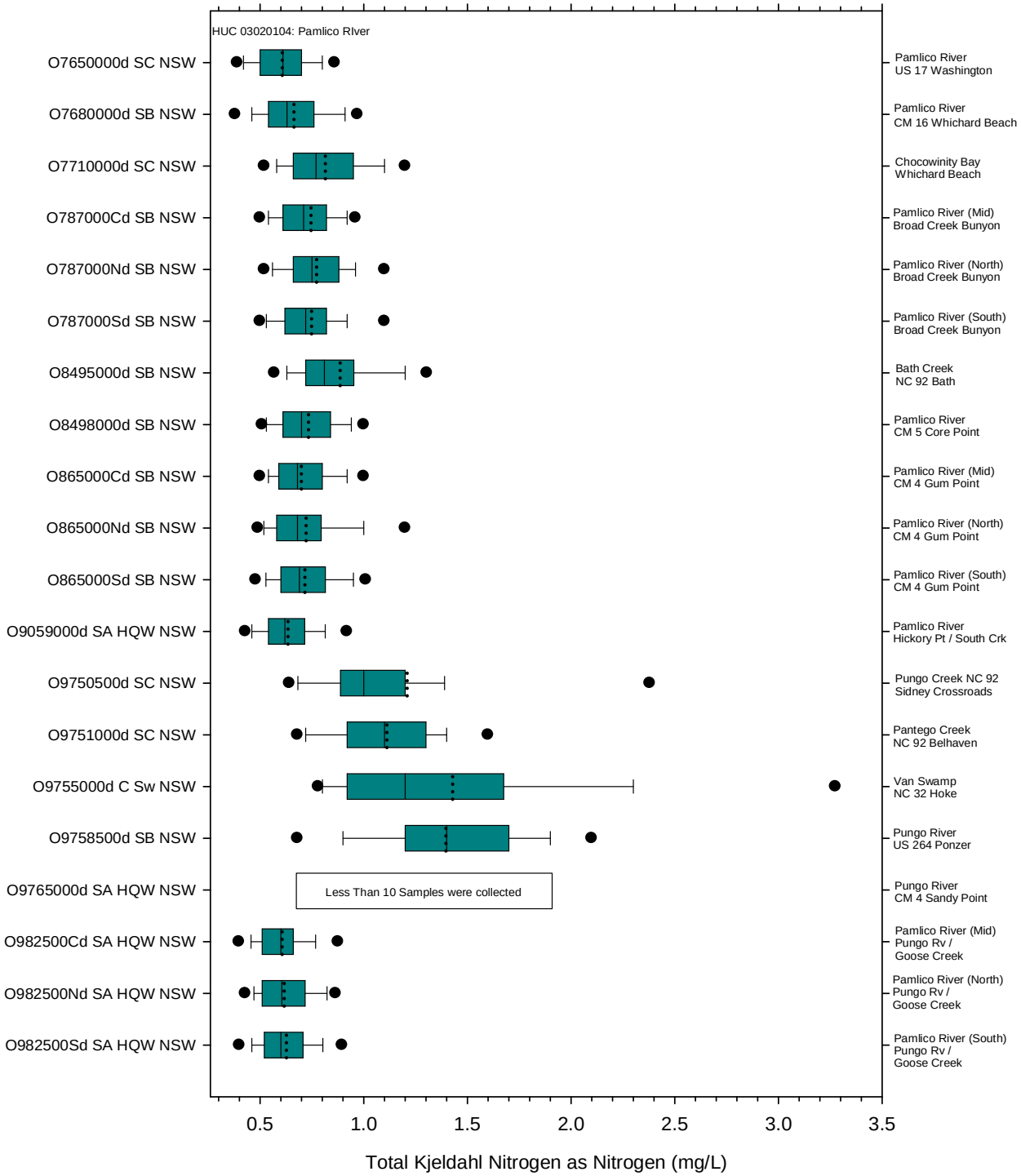

Figure 38. Box Plots of Total Kjeldahl Nitrogen as Nitrogen in the Pamlico River HUC

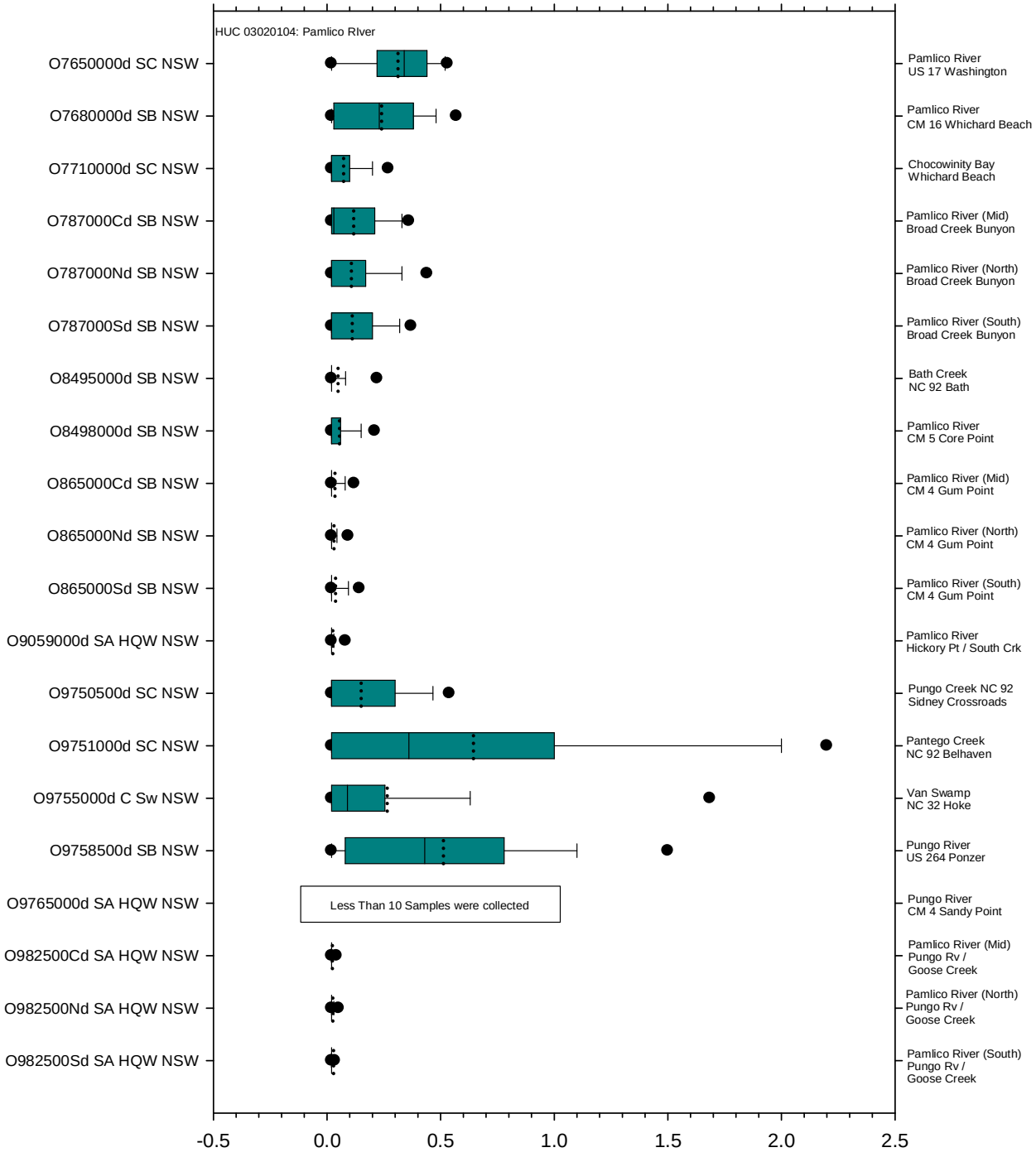

Figure 39. Box Plots of Total Nitrate & Nitrite as Nitrogen in the Pamlico River HUC

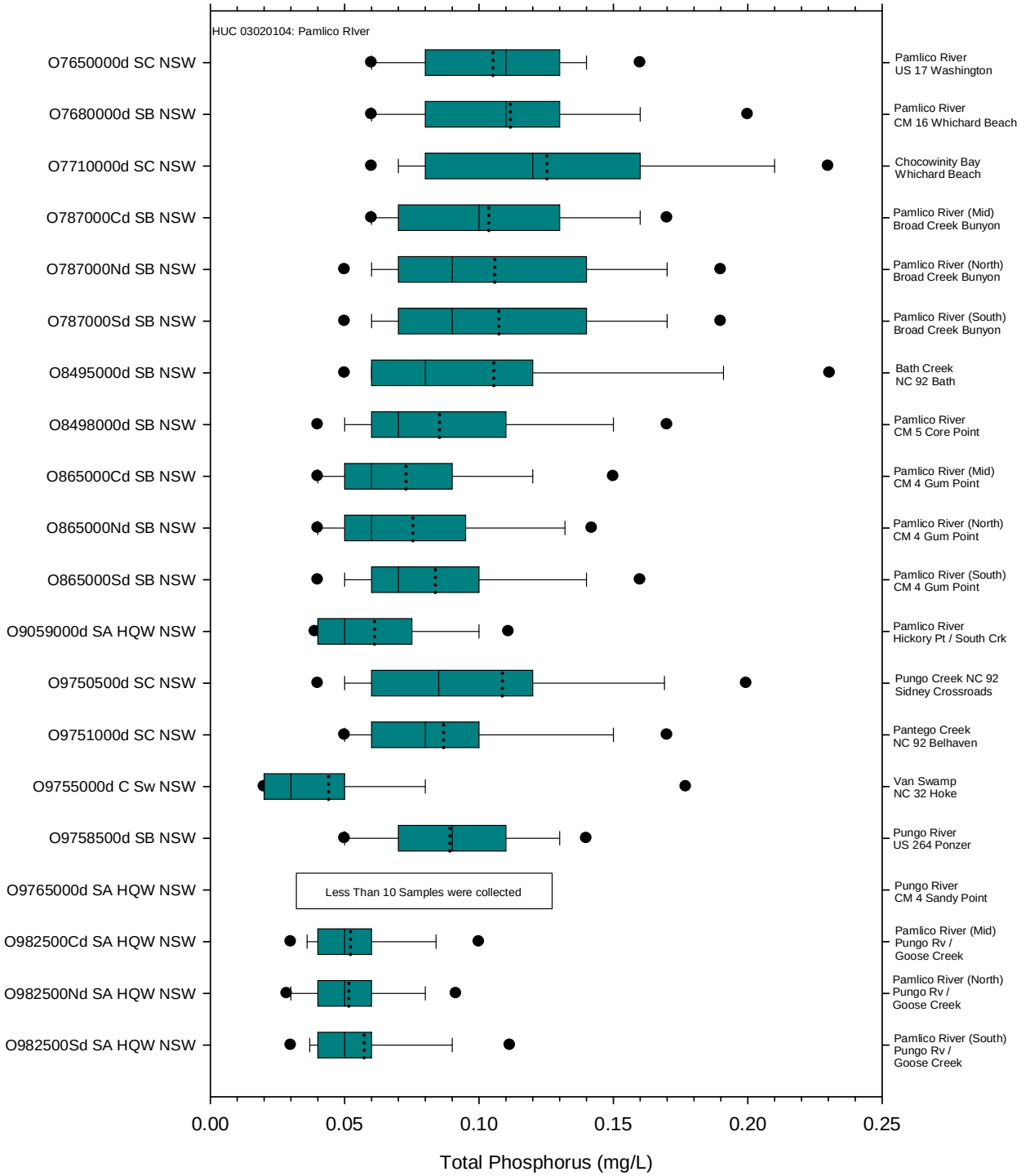

Figure 40. Box Plots of Total Phosphorus in the Pamlico River HUC

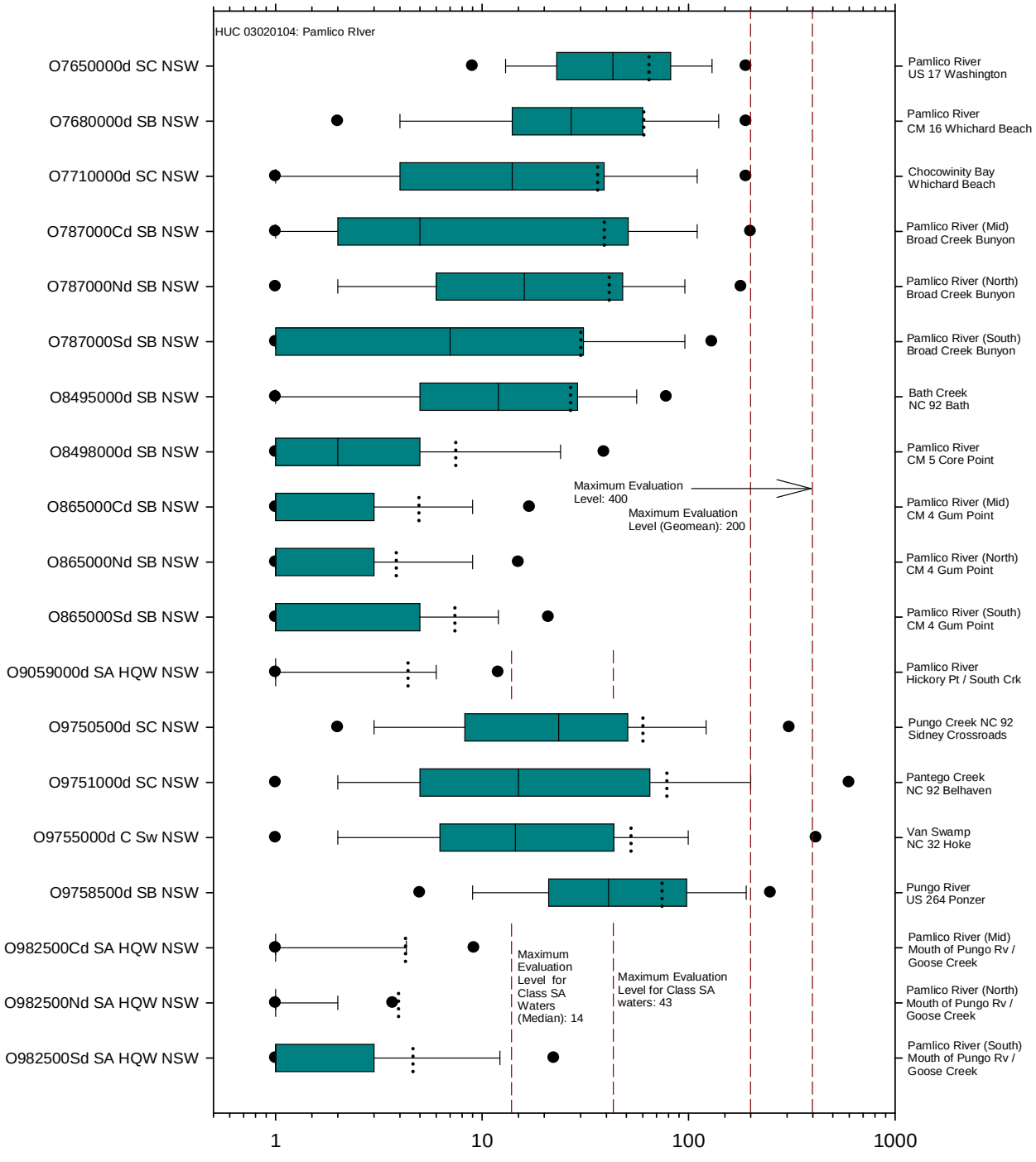

Figure 41. Box Plots of Fecal Coliform in the Pamlico River HUC

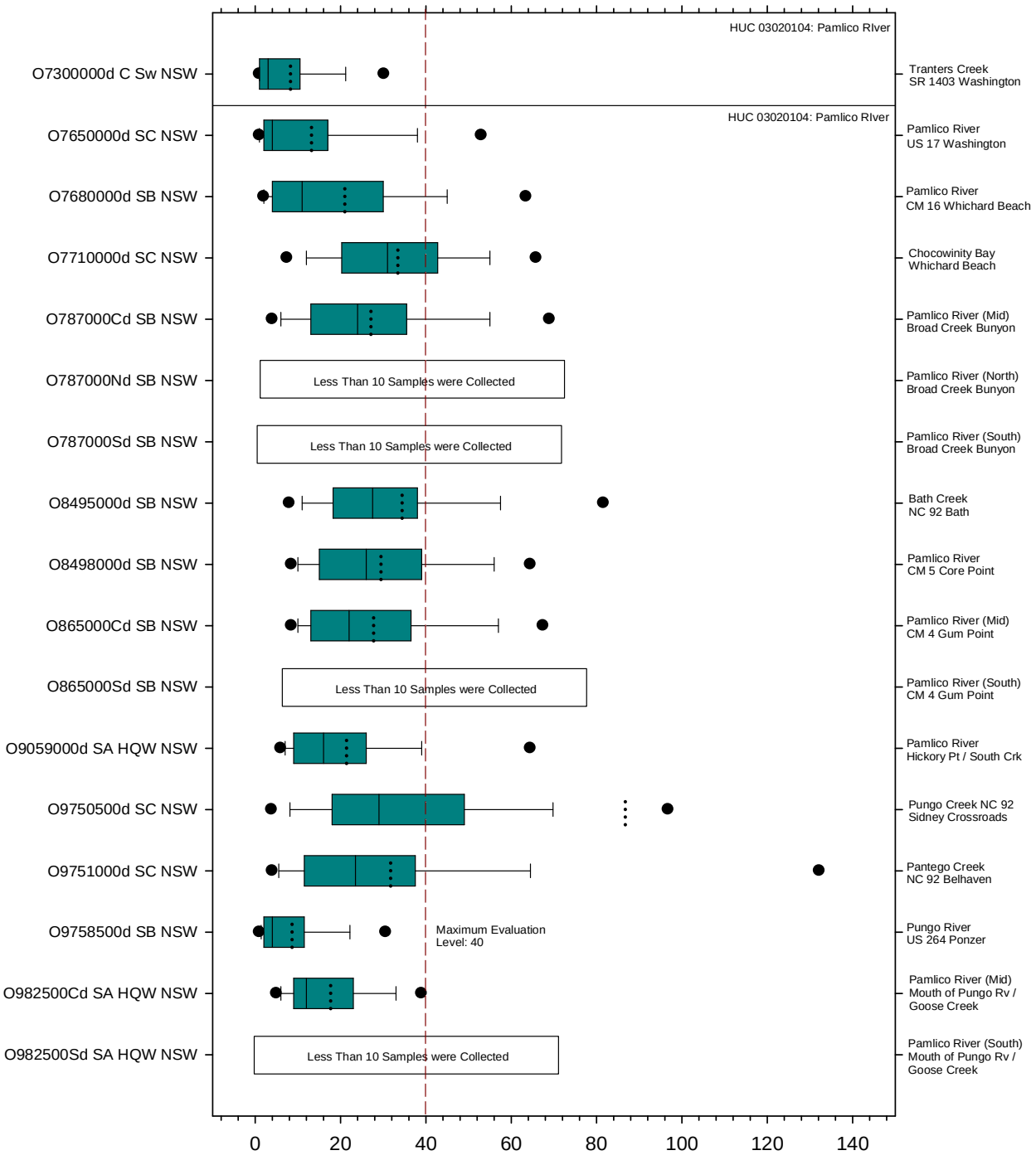

Figure 42. Box Plots of Chlorophyll a in the Tar-Pamlico River Basin

Appendix C: References

North Carolina Division of Water Quality, North Carolina Administrative Code Section 15A 2B .0200 (Red Book), May 1, 2007.
Pi-Erh Lin, Duane Meeter, and Xu-Feng Niu, A Nonparametric Procedure for Listing and Delisting Impaired Waters Based on Criterion Exceedances, Florida State University,Tallahassee, FL., October 2000.