

NEUSE RIVER COMPLIANCE ASSOCIATION®

Post Office Box 1410

Clayton, North Carolina 27528 - 1410

March 22, 2017

Mr. Jay Zimmerman, Director  
N. C. DEQ - Division of Water Resources  
1617 Mail Service Center  
Raleigh, North Carolina 27699-1617

Re: NPDES Permit No. NCC000001  
Annual Report for 2015

Dear Jay:

The Neuse River Compliance Association is pleased to submit its 2016 annual report as required in the above referenced permit. As included in the attached report, the co-permittee members delivered a total of 593,145 pounds of total nitrogen to the Neuse Estuary during calendar year 2016, approximately 50% of the permit limit of 1,190,831 pounds for 2016.

We are very proud of the continued accomplishments of the Association and the efforts made by our members to control nitrogen loading to the Neuse River Estuary.

We hope that the enclosed report provides the detailed information that the Division has requested. If you have any questions, or if you need any further information, please contact our Executive Director, Haywood M. Phthisic, III at 919.796.8049.

Sincerely,



Daniel F. McLawhorn  
Chairman

cc: Haywood M. Phthisic, III  
Board Member

Enclosures: Annual Report

NEUSE RIVER COMPLIANCE ASSOCIATION (NRCA)

2016 ANNUAL REPORT

NPDES PERMIT NCC000001

**(i). Co-Permittee Members of the NRCA for Calendar Year 2016**

Town of Apex -	NPDES Permit # NC0064050
Town of Kenly -	NPDES Permit # NC0064891
Town of Benson -	NPDES Permit # NC0020389
City of Kinston -	NPDES Permit # NC0024236
Town of Cary	
North Plant -	NPDES Permit # NC0048879
South Plant -	NPDES Permit # NC0065102
City of Raleigh	
Neuse WWTP -	NPDES Permit # NC0029033
Smith Creek WWTP -	NPDES Permit # NC0030759
Little Creek WWTP -	NPDES Permit # NC0079316
Johnston County -	NPDES Permit # NC0030716
City of Goldsboro -	NPDES Permit # NC0023949
Town of Clayton -	NPDES Permit # NC0025453
City of New Bern -	NPDES Permit # NC0025348
Contentnea MSD -	NPDES Permit # NC0032077
City of Wilson -	NPDES Permit # NC0023906
Town of Farmville -	NPDES Permit # NC0029572
Town of LaGrange -	NPDES Permit # NC0021644
MCAS Cherry Point -	NPDES Permit # NC0003816
Dupont-Kinston, Inc. -	NPDES Permit # NC0003760
Aqua N.C., Neuse Colony -	NPDES Permit # NC0064564
Duke Energy Progress -	NPDES Permit # NC0003417
South Granville W&S Authority -	NPDES Permit # NC0026824
City of Havelock -	NPDES Permit # NC0021253
CWS Systems, Inc. -	NPDES Permit # NC0033111
Craven County -	NPDES Permit # NC0089460

**(ii). Summary of revisions in the NRCA 's membership for 2016:**

No revisions were requested in 2016.

**(iii). Summary of all purchases, sales, trades, leases, and other transactions affecting the TN allocations of the Association or its Co-Permittee members in 2016:**

There were no permanent transfers of total nitrogen allocations between NRCA members in 2016.

Short Term Lease Agreements in 2016 -

- \* **Craven County** leased 50 lbs. of estuary nitrogen to their facility, NPDES # NC0089460, for 2016. No discharge occurred in 2016.
- \* **Town of LaGrange** leased 1,000 estuary pounds of nitrogen from Contentnea MSD for 2016. The facility treated total nitrogen to an annual average on 4.46 mg/L but has experience high inflow and infiltration rates. LaGrange has a permitted flow of 0.750 mgd and the average flow for 2016 was 0.642 mgd.

**Progress Achieved:**

The Association is extremely proud of the commitment, experience, and knowledge of its members in reducing nitrogen delivery to the Neuse River Estuary since the implementation of the Neuse Nutrient Management Strategy in 1998 as demonstrated below.

Year	Total Average Flow (MGD)	Total Nitrogen (lbs.) Delivered to the Neuse Estuary
1995	83.808	1,784,130
1996	85.675	1,741,492
1997	81.444	1,653,262
1998	93.442	1,387,717
1999	94.659	1,123,169
2000	92.582	1,056,202
2001	86.818	907,381
2002	89.926	797,991
2003	107.463	711,398
2004	101.203	558,553
2005	101.757	566,627
2006	102.970	542,205
2007	92.994	461,325
2008	90.563	489,798
2009	98.570	497,002
2010	101.852	584,192
2011	93.384	513,269
2012	97.248	540,892
2013	102.847	514,847
2014	108.359	568,387
2015	108.721	610,915
2016	108.734	593,145

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Total Nitrogen Monitoring Report for 2016

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FACILITY	NPDES Permit #	END OF PIPE				ESTUARY					
		Permit Flow (MGD)	2016 Avg. Flow (MGD)	Member TN Allocation (Lbs/Yr.)	Member TN Discharge (Lbs/Yr.)	Transport Factor	Annual Lease (Estuary Lbs.)	Member Estuary Allocation	Adjusted TN Allocation (Lbs/Yr.)	2016 TN Delivery (Lbs/Yr.)	% of Estuary Allocation
SGWASA	NC0026824	5.500	2.019	58,599	14,111	10%	0	5,860	0	1,411	24
Town of Apex	NC0064050	3.600	1.087	40,547	12,451	50%	0	20,274	0	6,226	31
Town of Benson	NC0020389	1.900	1.063	33,070	10,724	50%	0	16,535	0	5,362	32
Town of Cary ~ North	NC0048879	12.000	5.659	143,246	38,968	50%	0	71,623	0	19,484	27
Town of Cary ~ South	NC0065102	12.800	5.369	180,211	34,452	50%	0	90,105	0	17,226	19
City of Raleigh ~ Smith Creek	NC0030759	3.000	1.872	70,814	20,752	50%	0	35,407	0	10,376	29
City of Raleigh ~ Neuse	NC0029033	60.000	46.106	687,373	422,673	50%	0	341,242	0	211,337	75
Raleigh ~ Ground Water	NA	NA	NA	NA	89,002	50%	0	NA	0	44,501	
City of Raleigh ~ Little Creek	NC0079316	2.200	0.805	26,660	4,388	50%	0	11,227	0	2,194	20
Town of Clayton	NC0025453	2.500	1.439	22,832	20,408	50%	0	11,416	0	10,204	89
Neuse Colony, (Aqua NC)	NC0064564	0.350	0.243	8,447	6,655	50%	0	4,224	0	3,328	79
Johnston County	NC0030716	9.500	4.610	71,476	50,391	50%	0	35,738	0	25,196	71
Town of Kenly	NC0064891	0.630	0.401	7,096	3,080	50%	0	3,548	0	1,540	43
Town of Farmville	NC0029572	3.500	2.003	42,211	7,481	50%	0	21,106	0	3,741	18
City of Wilson	NC0023906	14.000	9.497	157,886	65,558	50%	0	78,943	0	32,779	42
Duke Energy ~ Lee Facility	NC0003417	NA	0.041	0	34	70%	0	2,282	0	24	1
City of Goldsboro	NC0023949	14.200	9.807	199,822	68,193	70%	0	139,876	0	47,735	34
Town of LaGrange	NC0021644	0.750	0.642	8,447	8,734	70%	1,000	6,913	0	6,113	88
City of Kinston (Regional)	NC0024236	11.850	6.278	126,711	46,487	70%	0	88,697	0	32,541	37
Contentnea MSD	NC0032077	3.500	2.137	37,100	10,369	70%	0	25,970	0	7,258	28
Dupont-Kinston, Inc.	NC0003760	3.600	0.307	25,493	1,381	70%	0	17,845	0	967	5
City of New Bern	NC0025348	6.500	3.957	64,210	56,515	100%	0	64,210	0	56,515	88
MCAS Cherry Point	NC0003816	3.500	1.743	39,421	22,115	100%	0	39,421	0	22,115	56
City of Havelock	NC0021253	1.900	1.326	21,400	15,461	100%	0	21,400	0	15,461	72
Carolina Water Service, Inc.	NC0033111	0.600	0.321	11,263	9,510	100%	0	11,263	0	9,510	84
		177.880	108.734	2,084,335				1,165,125		593,145	51

This Compliance Report has been compiled from co-permittee members' monthly discharge monitoring reports. I certify that this report is accurate and complete to the best of my knowledge.



Daniel F. McLawhorn, Chairman, Neuse River Compliance Association

3/22/17  
Date

- NOTES: 1. Average Total Nitrogen Concentration End of Pipe by NRCA Members during 2016: **2.86** MG/L  
 2. Average Total Nitrogen Concentration with ground water contribution in 2016: **3.13** MG/L  
 3. NRCA's Annual Report Prepared By: Haywood M. Phthisic, III, Executive Director

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Total Nitrogen Monitoring Report for 2016

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FACILITY	January, 2016			February, 2016			March, 2016			April, 2016		
	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)
SGWASA	75.876	2.72	1,721	76.261	2.91	1,853	67.306	2.54	1,427	55.586	2.85	1,319
Town of Apex	41.438	3.90	1,348	41.893	4.83	1,686	35.004	4.78	1,395	30.303	4.08	1,030
Town of Benson	39.348	2.64	866	48.198	2.04	820	32.481	1.45	393	26.520	3.55	785
Town of Cary ~ North	203.300	2.58	4,374	202.030	2.43	4,086	188.510	1.99	3,129	169.070	1.88	2,651
Town of Cary ~ South	178.640	2.84	4,227	184.750	2.51	3,867	174.300	2.08	3,018	161.320	1.68	2,254
City of Raleigh ~ Smith Creek	62.968	3.78	1,982	60.835	3.42	1,735	62.432	4.16	2,165	53.748	3.77	1,689
City of Raleigh ~ Neuse Raleigh ~ Ground Water	1,540.313	3.57	45,895	1,524.199	3.80	48,282	1,472.625	4.01	49,308	1,340.943	3.74	41,777
City of Raleigh ~ Little Creek	33.140	1.69	468	35.083	1.15	336	25.678	1.58	338	21.399	1.76	314
Town of Clayton	56.810	3.59	1,699	53.260	4.16	1,848	43.024	3.95	1,417	37.274	2.54	790
Neuse Colony (Aqua NC)	8.299	7.00	484	8.039	7.60	510	7.538	8.40	528	7.351	9.30	570
Johnston County	259.541	3.37	7,295	229.500	3.06	5,857	155.861	2.68	3,484	128.122	2.15	2,297
Town of Kenly	16.909	3.58	505	21.772	2.74	498	13.304	2.80	311	10.853	1.40	127
Town of Farmville	82.096	1.08	738	97.078	1.19	961	64.742	1.42	764	50.624	1.59	669
City of Wilson	393.750	2.02	6,633	454.080	2.09	7,915	287.850	2.23	5,353	243.680	1.45	2,947
Duke Energy ~ Lee Facility	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	3.610	0.03	1
City of Goldsboro ~ Pipe 01	344.060	2.48	7,116	410.950	3.88	13,298	270.550	3.43	7,739	233.890	1.85	3,609
City of Goldsboro ~ Pipe 02	58.080	1.45	702	59.810	1.51	753	50.590	1.73	730	0.000	0.00	0
Town of LaGrange	35.060	4.45	1,301	38.541	2.93	942	29.326	2.97	726	15.974	4.31	574
City of Kingston (Regional)	234.829	2.52	4,930	308.449	1.98	5,104	204.024	2.41	4,101	156.738	3.00	3,918
Contentnea MSD	79.439	0.92	611	103.460	0.77	664	60.089	1.26	630	52.827	1.11	490
Dupont-Kinston, Inc.	8.785	0.81	59	10.098	0.48	40	8.309	1.02	71	7.715	1.83	118
City of New Bern	157.810	9.12	11,997	183.460	5.24	8,017	139.190	5.90	6,849	110.610	4.73	4,363
MCAS Cherry Point	51.998	4.20	1,821	53.434	3.98	1,774	49.209	3.45	1,416	50.929	3.45	1,465
City of Havelock	44.877	3.54	1,325	47.932	3.66	1,463	37.540	3.64	1,140	37.366	5.15	1,605
Carolina Water Service, Inc.	10.245	10.03	857	10.057	7.98	669	9.596	9.52	761	8.814	6.79	499
Totals	4,017.611		116,374	4,263.169		120,397	3,489.078		104,609	3,015.266		83,278

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FACILITY	May, 2016			June, 2016			July, 2016			August, 2016		
	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)
SGWASA	66.210	2.22	1,226	58.604	1.41	691	64.800	1.75	946	57.092	2.25	1,071
Town of Apex	37.846	3.44	1,086	30.270	3.38	852	29.972	2.68	669	29.103	3.30	801
Town of Benson	31.430	7.24	1,898	22.750	2.18	414	29.610	2.16	533	26.180	1.89	413
Town of Cary ~ North	177.290	2.46	3,632	158.460	1.84	2,433	170.440	2.76	3,918	158.190	2.00	2,636
Town of Cary ~ South	182.900	1.64	2,496	157.050	2.34	3,061	164.710	1.99	2,732	156.090	1.99	2,591
City of Raleigh ~ Smith Creek	56.332	3.29	1,544	52.895	3.08	1,358	57.313	2.67	1,274	54.795	3.28	1,497
City of Raleigh ~ Neuse	1,406.303	3.09	36,282	1,296.870	2.71	29,347	1,420.617	2.61	30,955	1,359.429	2.53	28,732
Raleigh ~ Ground Water			7,417			7,416			7,417			7,417
City of Raleigh ~ Little Creek	24.891	1.22	254	20.603	2.81	482	25.176	1.47	309	20.033	2.34	390
Town of Clayton	42.529	2.34	830	32.593	4.94	1,343	34.009	3.44	976	31.491	6.46	1,696
Neuse Colony (Aqua NC)	8.080	17.00	1,146	7.129	10.00	595	6.444	9.40	505	6.313	9.40	495
Johnston County	133.119	2.83	3,142	88.552	2.21	1,634	128.829	3.91	4,201	91.147	2.06	1,569
Town of Kenly	15.734	2.37	311	8.466	2.58	182	14.089	2.43	286	9.729	2.80	227
Town of Farmville	68.258	1.46	830	47.721	1.36	540	47.256	0.63	246	40.380	1.44	486
City of Wilson	317.830	1.32	3,499	216.730	1.90	3,434	279.560	2.28	5,304	233.130	2.13	4,145
Duke Energy ~ Lee Facility	1.723	0.27	4	0.000	0.00	0	9.780	0.36	29	0.000	0.00	0
City of Goldsboro ~ Pipe 01	281.530	1.67	3,921	194.570	1.29	2,093	220.623	1.85	3,404	205.815	1.49	2,549
City of Goldsboro ~ Pipe 02	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0
Town of LaGrange	15.186	5.83	739	8.630	6.92	498	9.710	7.52	609	7.522	7.88	494
City of Kingston (Regional)	181.480	3.39	5,137	161.731	1.92	2,583	131.500	2.18	2,391	127.730	2.25	2,394
Contentnea MSD	71.063	1.41	833	66.375	1.54	852	55.227	1.42	654	51.427	1.58	676
Dupont-Kinston, Inc.	10.475	3.55	310	11.190	2.47	231	9.488	1.67	132	10.406	1.16	101
City of New Bern	0.000	0.00	0	126.560	1.32	1,393	127.690	1.36	1,443	127.773	1.69	1,803
MCAS Cherry Point	55.774	3.64	1,693	55.942	3.70	1,726	55.150	4.38	2,012	56.468	4.10	1,931
City of Havelock	40.491	3.89	1,314	38.274	5.27	1,682	35.710	5.16	1,535	37.403	3.61	1,127
Carolina Water Service, Inc.	8.463	12.43	877	9.225	8.55	658	10.460	15.20	1,326	9.628	9.70	779
Totals	3,234.937		80,420	2,871.190		65,497	3,138.163		73,807	2,907.274		66,019

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FACILITY	September, 2016			October, 2016			November, 2016			December, 2016		
	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)	Flow (MG)	TN Conc. (mg/L)	TN Disch. (Lbs.)
SGWASA	56,010	1.50	698	62,658	3.23	1,688	46,511	1.29	498	51,984	2.24	971
Town of Apex	27,600	3.58	823	36,386	3.68	1,115	27,905	3.30	768	30,112	3.50	879
Town of Benson	32,650	6.67	1,816	49,370	3.44	1,416	25,689	3.72	797	24,803	2.77	573
Town of Cary ~ North	151,970	2.10	2,660	179,900	2.39	3,584	151,290	2.22	2,798	160,840	2.29	3,068
Town of Cary ~ South	149,620	1.70	2,115	171,340	2.55	3,640	144,270	1.95	2,342	140,140	1.80	2,108
City of Raleigh ~ Smith Creek	54,982	4.01	1,840	58,771	3.99	1,957	53,164	3.76	1,665	57,036	4.30	2,045
City of Raleigh ~ Neuse	1,341,134	1.45	16,204	1,529,759	2.81	35,858	1,305,155	2.77	30,158	1,337,269	2.68	29,875
Raleigh ~ Ground Water			7,417			7,417			7,417		0.00	7,416
City of Raleigh ~ Little Creek	21,540	1.93	347	29,279	1.57	383	18,229	2.50	379	19,593	2.37	388
Town of Clayton	36,323	9.32	2,823	62,387	5.25	2,730	55,403	5.56	2,567	41,631	4.87	1,690
Neuse Colony (Aqua NC)	7,361	8.20	503	8,337	7.18	499	7,063	7.30	430	7,125	6.58	391
Johnston County	112,977	5.02	4,730	76,187	8.39	5,331	142,599	5.32	6,324	140,875	3.85	4,528
Town of Kenly	10,550	2.84	250	13,676	1.70	194	5,769	0.84	40	5,990	3.00	150
Town of Farmville	67,338	1.54	866	76,504	1.09	695	44,949	0.93	349	46,092	0.88	336
City of Wilson	248,050	2.76	5,705	358,870	3.19	9,536	213,730	3.29	5,864	228,720	2.74	5,222
Duke Energy ~ Lee Facility	0,000	0.00	0	0,000	0.00	0	0,000	0.00	0	0,000	0.00	0
City of Goldsboro ~ Pipe 01	250,674	1.26	2,630	459,032	2.58	9,877	263,984	2.46	5,416	193,325	2.07	3,331
City of Goldsboro ~ Pipe 02	0,000	0.00	0	0,000	0.00	0	0,000	0.00	0	92,039	1.33	1,024
Town of LaGrange	11,598	6.73	651	33,174	4.63	1,281	16,540	3.76	518	13,732	3.50	401
City of Kingston (Regional)	190,740	2.75	4,367	305,080	2.31	5,877	149,030	2.34	2,912	146,340	2.27	2,774
Contentnea MSD	69,601	2.27	1,315	80,212	2.30	1,536	43,198	2.45	883	49,376	2.97	1,223
Dupont-Kinston, Inc.	11,044	1.22	112	9,495	1.35	107	7,269	0.51	31	8,102	1.03	70
City of New Bern	170,856	3.21	4,574	182,817	5.38	8,199	0,000	0.00	0	121,659	7.76	7,876
MCAS Cherry Point	59,509	3.68	1,824	54,112	4.34	1,959	44,760	6.20	2,314	50,746	5.15	2,180
City of Havelock	48,656	2.06	834	47,559	4.20	1,665	32,233	2.90	780	37,170	3.20	992
Carolina Water Service, Inc.	8,440	8.79	619	10,729	7.77	696	10,020	9.99	835	11,817	9.49	935
<b>Totals</b>	<b>3,139,223</b>		<b>65,724</b>	<b>3,895,634</b>		<b>107,241</b>	<b>2,808,760</b>		<b>76,087</b>	<b>3,016,516</b>		<b>80,445</b>

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FACILITY	Total Q (MG)	EOP Total Nitrogen (Lbs)	EOP Avg Conc. (mg/L)	Avg Q (MGD)
SGWASA	738,898	14,111	2.2899	2.019
Town of Apex	397,832	12,451	3.7528	1.087
Town of Benson	389,029	10,724	3.3054	1.063
Town of Cary ~ North	2,071,290	38,968	2.2558	5.659
Town of Cary ~ South	1,965,130	34,452	2.1021	5.369
City of Raleigh ~ Smith Creek	685,271	20,752	3.6311	1.872
City of Raleigh ~ Neuse	16,874,616	422,673	3.0033	46.106
Raleigh ~ Ground Water		89,002		
City of Raleigh ~ Little Creek	294,644	4,388	1.7859	0.805
Town of Clayton	526,734	20,408	4.6457	1.439
Neuse Colony (Aqua NC)	89,078	6,655	8.9586	0.243
Johnston County	1,687,309	50,391	3.5809	4.610
Town of Kenly	146,841	3,080	2.5148	0.401
Town of Farmville	733,038	7,481	1.2237	2.003
City of Wilson	3,475,980	65,558	2.2614	9.497
Duke Energy ~ Lee Facility	15,113	34	0.0000	0.041
City of Goldsboro ~ Pipe 01	3,329,003	64,984	2.3406	9.096
City of Goldsboro ~ Pipe 02	260,519	3,209	1.4772	0.712
Town of LaGrange	234,993	8,734	4.4562	0.642
City of Kinston (Regional)	2,297,671	46,487	2.4259	6.278
Contentnea MSD	782,294	10,369	1.5893	2.137
Dupont-Kinston, Inc.	112,376	1,381	1.4738	0.307
City of New Bern	1,448,425	56,515	4.6784	3.957
MCAS Cherry Point	638,031	22,115	4.1561	1.743
City of Havelock	485,211	15,461	3.8208	1.326
Carolina Water Service, Inc.	117,494	9,510	9.7051	0.321
Operating Totals	39,796,820	950,896	2.8650	108.734
Association Totals	39,796,820	1,039,898	3.1331	108.734