

BRUNSWICK COUNTY INTERBASIN TRANSFER

2018 ANNUAL REPORT

Due to the seasonal nature of the water system, July was once again our peak month. The average daily usage was slightly higher than the previous year. Total water production at the Northwest Water Treatment Plant was 16.271 mgd or 67.8% of its permitted capacity of 24 mgd, this is 7.7% lower than last year. The potable water usage by customer class was down slightly for wholesale, retail, and industrial customers when compared to 2017. The total interbasin transfer in the month of July decreased to 7.124 mgd most likely due to the reduction in water use across all customer classes.

Wastewater discharges increased slightly in the Cape Fear and Waccamaw river basin while discharges decreased in the Shallotte river basin. Most of the wastewater effluent was used as reclaimed water for irrigation at golf courses and tree farms while other uses were for groundwater recharge and NPDES discharge.

	July 2018	July 2017
Total Surface Water Production (mg)	504.414	561.903
Total Surface Water Sold (mg)	476.990	537.352
Total IBT (mgd) Shallotte	7.124	7.84
Total IBT (mgd) Waccamaw	0.304	0.316
Total Wastewater Flow (mg)	230.670	216.089

**AVERAGE DAY IN PEAK MONTH
TRANSFERRED BETWEEN RIVER BASINS**

	July-18 (mg)	July-18 (mgd)
Plant Flows		
(Million Gallons)		
Northwest WTP	504.414	16.271
NC 211 WTP	114.997	3.710
Total Plant Flows	619.411	19.981
Total Billed Flows	585.735	18.895
Unaccounted for Water	33.676	1.086
NWTP % of Plant flow to total flow	0.814	
Surface Water (NWTP) Portion of Billed flow	476.990	15.387
Cape Fear River Basin		
(Million Gallons)		
ADM	37.576	1.212
Bald Head Island	2.60374	0.084
DAK Monomers	0	0.000
Brunswick Regional (H2GO)	60.745	1.960
Leland	15.401	0.497
Navassa	2.392	0.077
Northwest	2.080	0.067
Oak Island	44.512	1.436
Duke Energy	5.554	0.179
Capital Power	21.200	0.684
Southport	18.903	0.610
Sunny Point	1.056	0.034
Total Flows	212.023	6.839
Surface Water Portion of Total	172.660	5.570
Shallotte River Basin		
(Million Gallons)		
Holden Beach	26.250	0.847
Ocean Isle Beach	36.267	1.170
Shallotte	15.105	0.487
Total Flows	77.622	2.504
Surface Water Portion of Total Flow	63.211	2.039
Retail Flows		
Surface Water Portion of Retail Flows	296.090	9.551
(MG) Surface Water Flow Per Basin	241.119	7.778
Cape Fear River Basin	86.562	2.792
Shallotte River Basin	145.636	4.698
Waccamaw River Basin	8.921	0.288
Surface Water Billed Flow By Basin		
(Million Gallons)		
Cape Fear River Basin	259.222	8.362
Shallotte River Basin	208.847	6.737
Waccamaw River Basin	8.921	0.288
Surface Water Percentage Per Basin		
Cape Fear River Basin	44.26%	
Shallotte River Basin	35.66%	
Waccamaw River Basin	1.52%	
Non Revenue Flow Allocation		
(Based upon Billed Percentages)		

Cape Fear	14.903	0.481
Shalotte	12.007	0.387
Waccamaw	0.513	0.017

Total Surface Water Transferred

(Million Gallons)

Cape Fear to Shalotte River Basin	220.855	7.124
Cape Fear to Waccamaw River Basin	9.434	0.304

Wastewater Discharges

July-18

July-18

(mg)

(mgd)

NPDES Permits

(Million Gallons)

Cape Fear River Basin

Northeast Brunswick Regional WWTP	74.857	2.415
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Waccamaw River Basin

Carolina Shores WWTP	10.78	0.348
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Non-Discharge Permits

Shalotte River Basin

Sea Trail WWTP	5.032	0.162
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West Brunswick WRF	148.197	4.781
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Shalotte WWTP	4.14	0.134
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Ocean Isle Beach WWTP	18.044775	0.582
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Total Shalotte River Basin	175.417025	5.659
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VOLME OF WATER TRANSFERRED BETWEEN RIVER BASINS IN 2018

Plant Flows (Million Gallons)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Northwest WTP	338.791	239.503	295.04	338.795	418.41	483.56	504.41	479.25	410.64	443.37	357.25	337.46
NC 211 WTP	73.372	67.905	64.877	81.152	111.94	116.55	115.00	113.97	60.27	36.49	17.83	9.19
Total Plant Flows	412.163	307.408	359.917	419.947	530.35	600.101	619.411	593.214	470.9054	479.865	375.078	346.657
Total Billed Flows	295.4856	312.974	312.6702	355.4021	452.09	546.53	585.74	547.05	410.87	394.94	358.72	266.76
Unaccounted for Water	116.6974	-5.566	47.2468	64.5449	78.2611	53.574	33.6756	46.1614	60.0354	84.9231	16.363	79.8957
NWTP % of Plant flow to total flow	82.2%	77.9%	82.0%	80.7%	78.9%	80.6%	81.4%	80.8%	87.2%	92.4%	95.2%	97.3%
NWTP Portion of Billed flow	243	244	256	287	357	440	477	442	358	365	342	260
Cape Fear River Basin												
(Million Gallons)												
ADM	26.674	33.745	41.237	35.362	53.178	43.378	37.576	44.698	17.464	33.584	40.611	19.332
Bald Head Island	0.583	0.214	0.242	0.458	0.853	1.369	2.604	2.153	1.598	5.997	4.447	0.507
DAK Monomers												
Brunswick Regional (H2GO)	32.760	71.899	48.230	50.343	55.596	67.073	60.745	74.437	52.053	53.383	50.807	40.637
Leland	4.906	5.216	7.049	8.991	12.156	14.158	15.401	16.996	11.242	12.762	8.486	6.322
Navasa	4.067	2.235	2.162	2.219	2.167	2.357	2.392	2.846	2.167	2.729	2.579	2.203
Northwest	2.127	2.559	3.076	2.667	3.463	2.239	2.080	2.399	2.000	1.692	1.791	1.155
Oak Island	18.770	17.789	23.756	25.488	29.804	43.640	44.512	46.408	10.262	18.794	22.094	17.856
Duke Energy	3.008	5.433	5.093	5.093	5.809	6.147	5.554	7.277	3.657	4.241	5.058	5.355
Capital Power	12.643	11.181	15.278	15.719	19.491	19.427	21.200	19.271	6.362	17.390	10.089	8.572
Southport	15.055	13.440	12.722	14.153	16.602	20.762	18.903	20.468	16.864	16.811	13.556	10.827
Sunny Point	0.477	0.532	0.542	0.510	0.381	0.896	1.056	0.466	3.003	1.878	2.394	1.814
Total Flows	121.070	163.032	159.727	160.996	199.499	221.445	212.023	237.418	126.671	169.261	161.912	114.579
Surface Water Portion of Total	99.518	127.019	130.935	129.884	157.392	178.439	172.660	191.807	110.459	156.389	154.214	111.541
Shallotte River Basin												
(Million Gallons)												
Holden Beach	3.508	5.200	7.504	9.578	13.382	25.416	26.250	25.168	11.853	12.679	8.299	4.288
Ocean Isle Beach	5.514	7.940	13.154	15.225	20.737	34.091	36.267	33.607	13.095	15.428	11.671	6.973
Shallotte	9.070	10.199	14.380	12.029	14.735	18.434	15.105	18.623	11.934	13.833	12.228	10.931
Total Flows	18.093	23.338	35.039	36.832	48.854	77.942	77.622	77.398	36.882	41.940	32.198	22.192
Surface Water Portion of Total Flow	14.877	18.18	28.72	29.71	38.54	62.80	63.21	62.53	32.16	38.75	30.67	21.60
Retail Flows												
Surface Water Portion of Retail Flows	156.303	126.604	117.904	157.574	203.736	247.140	296.090	232.236	247.317	183.740	164.604	129.990
(MG) Surface Water Flow Per Basin	128.478	98.637	96.651	127.124	160.734	199.143	241.119	187.620	215.664	169.767	156.778	126.543
Cape Fear River Basin												
Shallotte River Basin	46.124	35.411	34.698	45.637	57.704	71.492	86.562	67.356	77.423	60.946	56.283	45.429
Shallotte River Basin	77.601	59.577	58.378	76.783	97.084	120.283	145.636	113.323	130.261	102.539	94.694	76.432
Waccamaw River Basin	4.7537	3.6496	3.5761	4.7036	5.9472	7.3683	8.9214	6.9420	7.9796	6.2814	5.8008	4.6821
Surface Water Billed Flow By Basin												
(Million Gallons)												
Cape Fear River Basin	167.194	198.443	194.425	206.633	257.203	292.938	259.222	304.774	204.095	230.208	218.196	160.008
Shallotte River Basin	95.694	82.915	93.416	113.615	145.937	198.224	208.847	190.721	167.143	144.480	126.893	98.624
Waccamaw River Basin	4.7537	3.6496	3.5761	4.7036	5.9472	7.3683	8.9214	6.9420	7.9796	6.2814	5.8008	4.6821
Surface Water Percentage Per Basin												
Cape Fear River Basin	56.59%	63.41%	62.18%	58.14%	56.89%	53.60%	44.26%	55.71%	49.67%	58.29%	60.83%	59.98%
Shallotte River Basin	32.39%	26.49%	29.88%	31.97%	32.28%	36.27%	35.66%	34.86%	40.68%	36.58%	35.37%	36.97%
Waccamaw River Basin	1.61%	1.17%	1.14%	1.32%	1.32%	1.35%	1.52%	1.27%	1.94%	1.59%	1.62%	1.76%
Non Revenue Flow Allocation												
(Based upon Billed Percentages)												
Cape Fear	66.0350135	-3.529153484	29.37902943	37.52687634	44.52441385	28.7156	14.90339674	25.71745642	29.82185567	49.50082899	9.95312379	47.92282349
Shallotte	37.79524382	-1.4745851	14.11592069	20.63372095	25.26310176	19.43116328	12.00722826	16.09338063	24.42252636	31.06700531	5.78827845	29.53812586
Waccamaw	1.8752532	-0.064905066	0.540376219	0.854222352	1.029515442	0.722287061	0.512917842	0.58577632	1.165957238	1.35066401	0.264606692	1.402300388
	105.7077826											
Total Surface Water Transferred												
(Million Gallons)												
Cape Fear to Shallotte River Basin	133.489	81.441	107.532	134.249	171.200	217.655	220.855	206.814	191.565	175.547	132.681	128.162
Cape Fear to Waccamaw River Basin	6.6312	3.5847	4.1165	5.5578	6.9767	8.0906	9.4343	7.5277	9.1455	7.6320	6.0654	6.0844
Total Surface Water Transferred												
(Million Gallons Per Day)												
Cape Fear to Shallotte River Basin	4.31	2.91	3.47	4.47	5.52	7.26	7.12	6.67	6.39	5.66	4.42	4.13
Cape Fear to Waccamaw River Basin	0.214	0.128	0.133	0.185	0.225	0.270	0.304	0.243	0.305	0.246	0.202	0.196
Wastewater Discharges												
NPDES Permits												
(Million Gallons)												
Cape Fear River Basin												
Northeast Brunswick Regional WWTP	65.758	61.622	64.487	61.883	65.547	70.929	74.857	74.246	72.871	66.291	70.168	84.421
Waccamaw River Basin												
Carolina Shores WWTP	9.046	7.837	9.969	9.339	9.706	10.527	10.78	8.309	10.40	10.06	9.34	7.50
Non-Discharge Permits												
Shallotte River Basin												
Sea Trail WWTP	3.81	3.973	3.675	4.76	5.386	5.299	5.03	4.708	4.89	5.58	4.97	5.06
West Brunswick WRF	86.899457	77.648134	70.4518019	91.803908	106.968285	104.785046	148.20	160.112	139.52	116.36	115.10	131.15
Shallotte WWTP	3.601836	4.497362	6.218745	5.408231	4.287754	3.975425	4.14	4.334546	4.35	4.13	3.53	4.30
Ocean Isle Beach WWTP	6.569654	5.976856	7.774882	8.232322	10.420833	15.083355	18.04	12.336645	8.51	8.87	7.07	6.61
Total Shallotte River Basin	100.880947	92.095352	88.1204289	110.204461	127.062872	129.142806	175.417025	181.491191	157.266582	134.946516	130.673245	147.124289