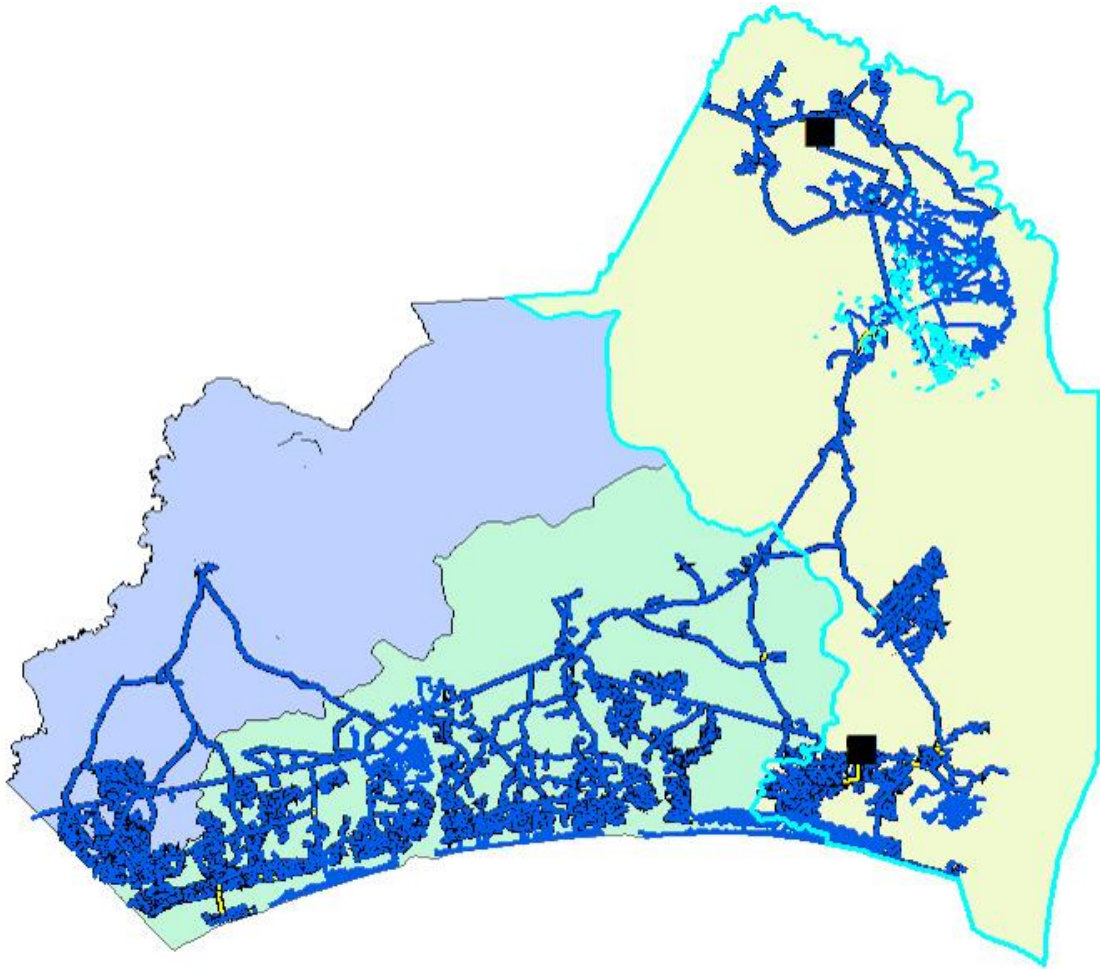


# Brunswick County Public Utilities 2021 Interbasin Transfer Report



# Brunswick County Public Utilities 2021 Annual Interbasin Transfer Report

## Summary:

Brunswick County Public Utilities provides water to more than 49,000 retail customers and 7 wholesale customers including the towns of Oak Island, Shallotte, Ocean Isle, and Holden Beach. The County owns and operates the water systems in unincorporated towns within the county and provides water directly to individual retail customers in those areas. The Northwest Water Treatment Plant (WTP) is one of two facilities that the County operates and is the only surface water treatment plant.

Brunswick County had a grandfathered surface water transfer capacity of 10.44 MGD. The grandfathered capacity allowed the system to transfer water from the Cape Fear River Basin to the Waccamaw and Shallotte River Basins (each a sub basin to the Lumber Major River Basin). On February 17, 2009, Brunswick County submitted a Notice of Intent to Request an Interbasin Transfer (IBT) Certificate to the Environmental Management Commission (EMC). In that notice the County requested an authorized transfer of 18.35 MGD to the Shallotte River Basin and 0.94 MGD to the Waccamaw River Basin. These transfer amounts were based on a proposed expansion of the Northwest WTP from 24 MGD to 36 MGD and took into account population projections through the year 2040. In its final determination on November 26, 2013, the EMC authorized a transfer amount not to exceed a maximum of 17 MGD, calculated as a daily average of a calendar month, from the Cape Fear River Basin to the Shallotte and Waccamaw River Basins.

In 2021 Brunswick County experienced drier than average weather for the month of May. Brunswick County issued water conservation messaging to its wholesale and retail customers on May 21<sup>st</sup> to raise awareness and encourage customers to use water wisely. However due to the seasonal nature of our customer demand, July was our peak month for water production and transfers between basins (see Figure 1). Average daily water production for July at the Northwest WTP was 19.501 MGD or 81 % of its permitted capacity of 24 MGD, this is nearly equal to our demands of 2020. Potable water usage by customer class in each basin was mixed, wholesale water usage was flat for the communities of Oak Island, Holden Beach, and Ocean Isle Beach; whereas wholesale water usage was up by 7% in the Leland-H2GO service area. Industrial water usage was consistent with last year with the exception of Capital Power having ceased operation and showing little to no water usage for the month of July. Retail customer water usage experienced rapid growth in part due to the Navassa Water System being absorbed by the county, and updated water meter counts across the area. All three river basins showed increased retail water usage by at least 17%. The Cape Fear River basin saw the greatest increase of water usage at 21% with the Shallotte River Basin reflecting retail water usage increases of 19%. The Waccamaw River Basin increased retail water usage by 17%. All in all, there was an increase of 0.938 MGD of water transferred to the Shallotte River basin totaling 8.166 MGD. For the Waccamaw River Basin, the water transfer increased by 0.248 MGD for a total of 1.763 MGD in the month of July. Both transfers are well within our IBT limit of 17 MGD.

Brunswick County Public Utilities 2021 Annual Interbasin Transfer Report - Continued

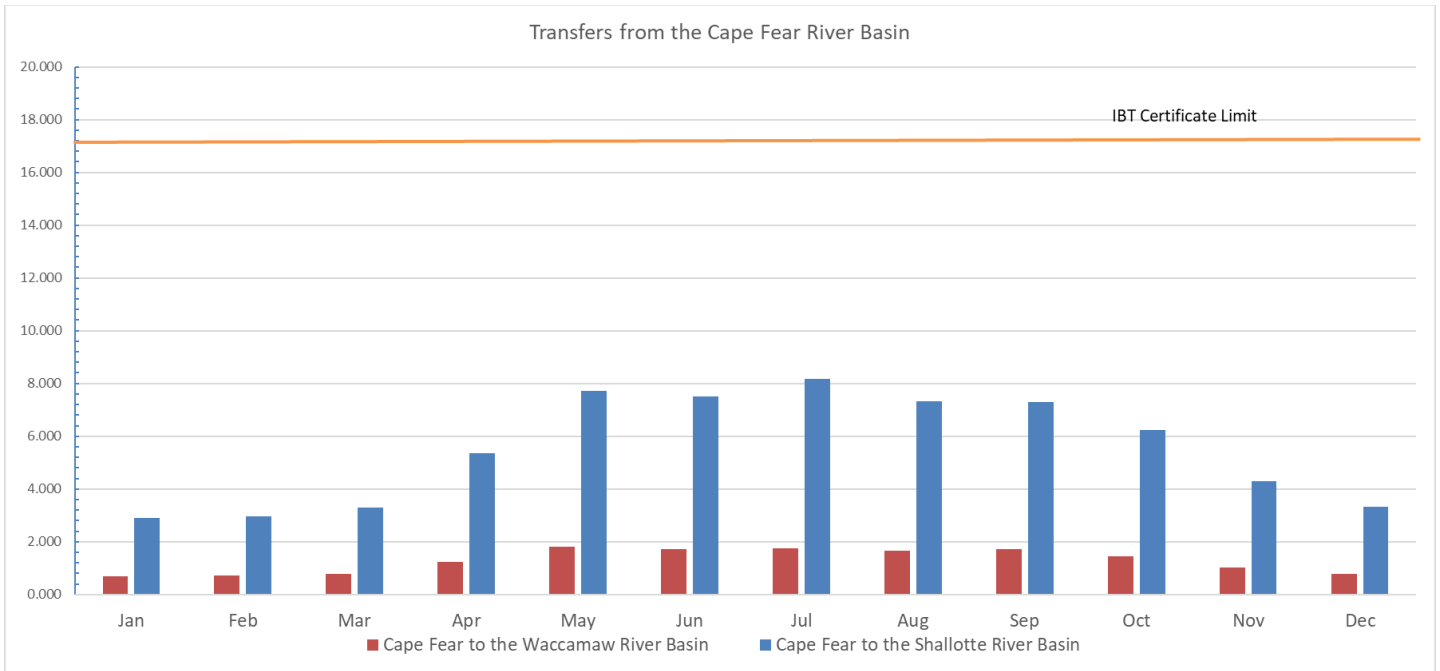


Figure 1.

## 2021 Interbasin Transfer Supporting Data

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

	<b>July-21</b>	<b>July-21</b>
<b>Peak Month WTP Flows</b> (Million Gallons)	Total Monthly Flow <b>(MG)</b>	Daily Average <b>(MGD)</b>
Northwest WTP (Surface Water)	604.532	19.501
NC 211 WTP (Groundwater)	108.327	3.494
Total Plant Flows	712.859	22.995
Total Billed Flows	632.923	20.417
Unaccounted for Water	79.936	2.579
NWTP % of Plant flow to total flow	85%	
Surface Water (NWTP) Portion of Billed flow	536.743	17.314

**Cape Fear River Basin Wholesale and Industrial Usage**

	<b>July-21</b>	<b>July-21</b>
	Total Monthly Flow <b>(MG)</b>	Daily Average <b>(MGD)</b>
ADM	28.478	0.919
Bald Head Island	5.953	0.192
DAK Monomers	0.000	0.000
Brunswick Regional (H2GO)	93.022	3.001
Leland	15.900	0.513
Navassa	0.000	0.000
Northwest	0.000	0.000
Oak Island 50%	28.779	0.928
Southport 100%	22.923	0.739
ADM 100%	28.478	0.919
Duke Energy 100%	5.953	0.192
Capital Power 100%	0.001	0.000
Sunny Point 100%	1.435	0.046
Total Flows	200.089	6.454
Surface Water Portion of Total Flow	200.089	6.454

**Shallotte River Basin Wholesale Water Usage (MG)**

Holden Beach	27.493	0.887
Ocean Isle Beach	39.383	1.270
Shallotte	19.250	0.621
Total Flows	86.126	2.778
Surface Water Portion of Total Flow	73.038	2.356

**Retail Water Usage for Peak Month**

	346.709	11.184
Surface Water Portion of Retail Flows	294.022	9.485

**Retail Surface Water Flow Per Basin**

Cape Fear River Basin	93.793	3.026
Shallotte River Basin	151.716	4.894
Waccamaw River Basin	48.514	1.565

**Surface Water Usage Billed Per Basin**

	<b>July-21</b>	<b>July-21</b>
Cape Fear River Basin	293.882	9.480
Shallotte River Basin	224.753	7.250
Waccamaw River Basin	48.514	1.565

**Billed Surface Water Flow Percentage Per Basin**

Cape Fear River Basin	46.43%
Shallotte River Basin	35.51%
Waccamaw River Basin	7.67%

<b>Non-Revenue Flow Allocation Per Basin</b> (Based upon Billed Percentages)	<b>July-21 (MG)</b>	<b>July-21 (MGD)</b>
Cape Fear River Basin	37.116	1.197
Shalotte River Basin	28.386	0.916
Waccamaw River Basin	6.127	0.198

<b>Total Surface Water Transferred in Peak Month (July)</b>		
Cape Fear to Shalotte River Basin	<b>253.139</b>	<b>8.166</b>
Cape Fear to Waccamaw River Basin	<b>54.641</b>	<b>1.763</b>

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Cape Fear to Waccamaw River Basin	<b>54.641</b>	<b>1.763</b>

<b>Wastewater Discharges</b>	<b>July-21 (MG)</b>	<b>July-21 (MGD)</b>
<b>Cape Fear River Basin</b>		
Northeast Brunswick Regional WWTP	76.280	2.461
<b>Waccamaw River Basin</b>		
Carolina Shores WWTP	11.809	0.381

<b>Non-Discharge Permits</b>	<b>July-21 (MG)</b>	<b>July-21 (MGD)</b>
<b>Shalotte River Basin</b>		
Sea Trail WWTP	4.064	0.131
West Brunswick WRF	162.447	5.240
Shalotte WWTP	7.389	0.238
Ocean Isle Beach WWTP	16.514	0.533
Total Shalotte River Basin	190.414	6.142