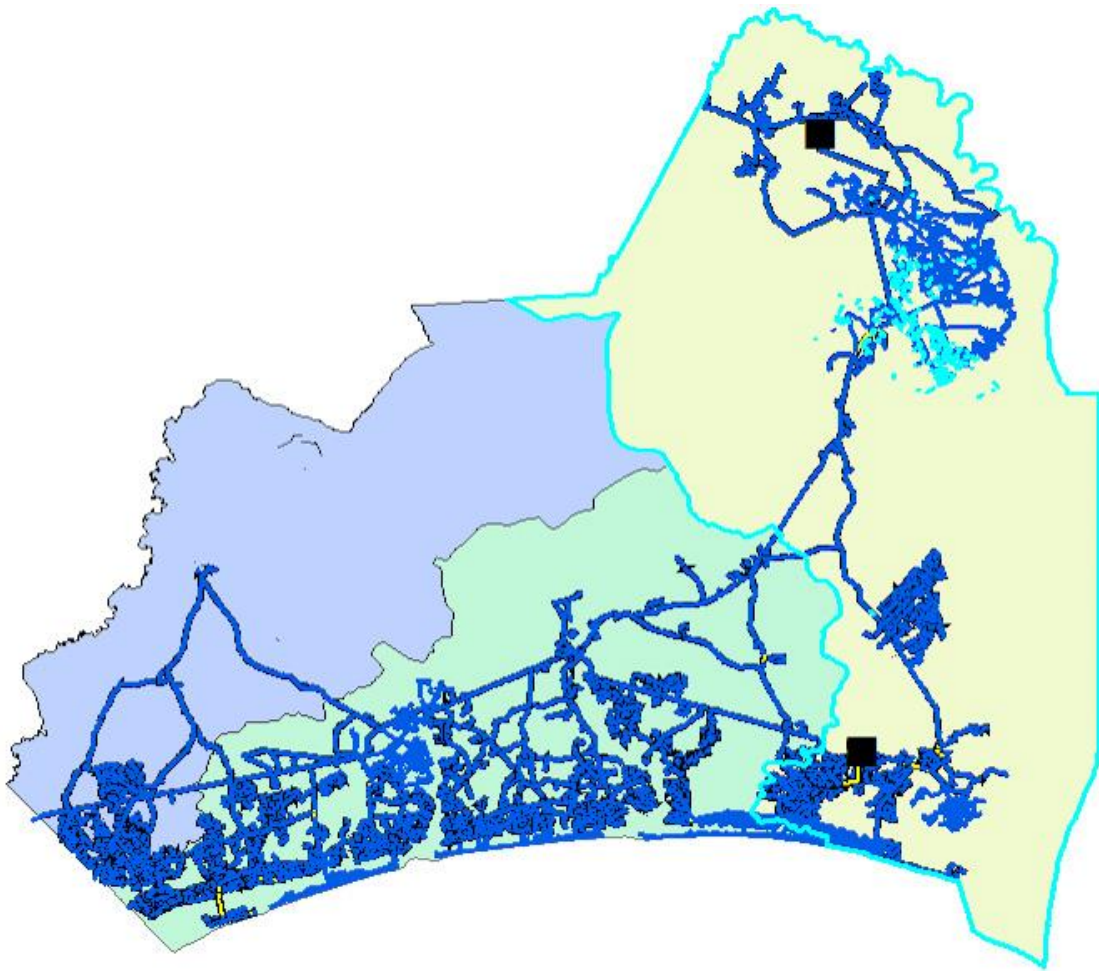


# Brunswick County Public Utilities 2022 Interbasin Transfer Report



## Summary:

Brunswick County Public Utilities provides water to more than 51,200 retail customers and 7 wholesale customers. The town of Leland and Brunswick Regional Water and Sewer (H2GO) are two wholesale customers that have merged and are now considered one customer under the H2GO name. The six (6) other wholesale customers served by the Brunswick County Water System are Bald Head Island, Oak Island, Holden Beach, Ocean Isle Beach, Southport and Shallotte. 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 has 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 considered 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 2022 Brunswick County experienced drier than average weather and higher water demands for the month of June. Brunswick County issued a water conservation alert to its wholesale and retail customers on June 16th to raise awareness and encourage customers to use water wisely. However, due to the seasonal nature of our customer demand, June was our peak month for water production and transfers between river basins (see Figure 1). Average daily water production for June at the Northwest WTP was 21.43 MGD or 89 % of its permitted capacity of 24 MGD, this is 9.9% higher than 2021 for the peak month (July). June potable water usage in the Cape Fear Basin climbed by 8.7%, as this was driven mostly by the H2GO service area and industrial users. The Shallotte River Basin saw increases of 7.7%, mainly driven by wholesale customer demands. The Waccamaw River Basin had the lowest increase of just 1.8% in water usage for the month of June. 0.412 MGD of wastewater was diverted from the Waccamaw River Basin back to the Shallotte River Basin, while 0.695 MGD of wastewater was pumped from the Cape Fear River Basin to the Shallotte River Basin for treatment at the West Brunswick WRF. Then an estimated 0.449 MGD of treated wastewater from the West Brunswick WRF was pumped back into the Cape Fear River Basin for reuse at golf courses. Overall, there was an increase of 1.534 MGD of water transferred to the Shallotte River Basin totaling 9.698 MGD for the month of June. In the Waccamaw River Basin, the water transfer decreased by 0.324 MGD for a total of 1.439 MGD. The decrease is attributable to the wastewater diverted back into the Shallotte River Basin and treated at the West Brunswick WRF.

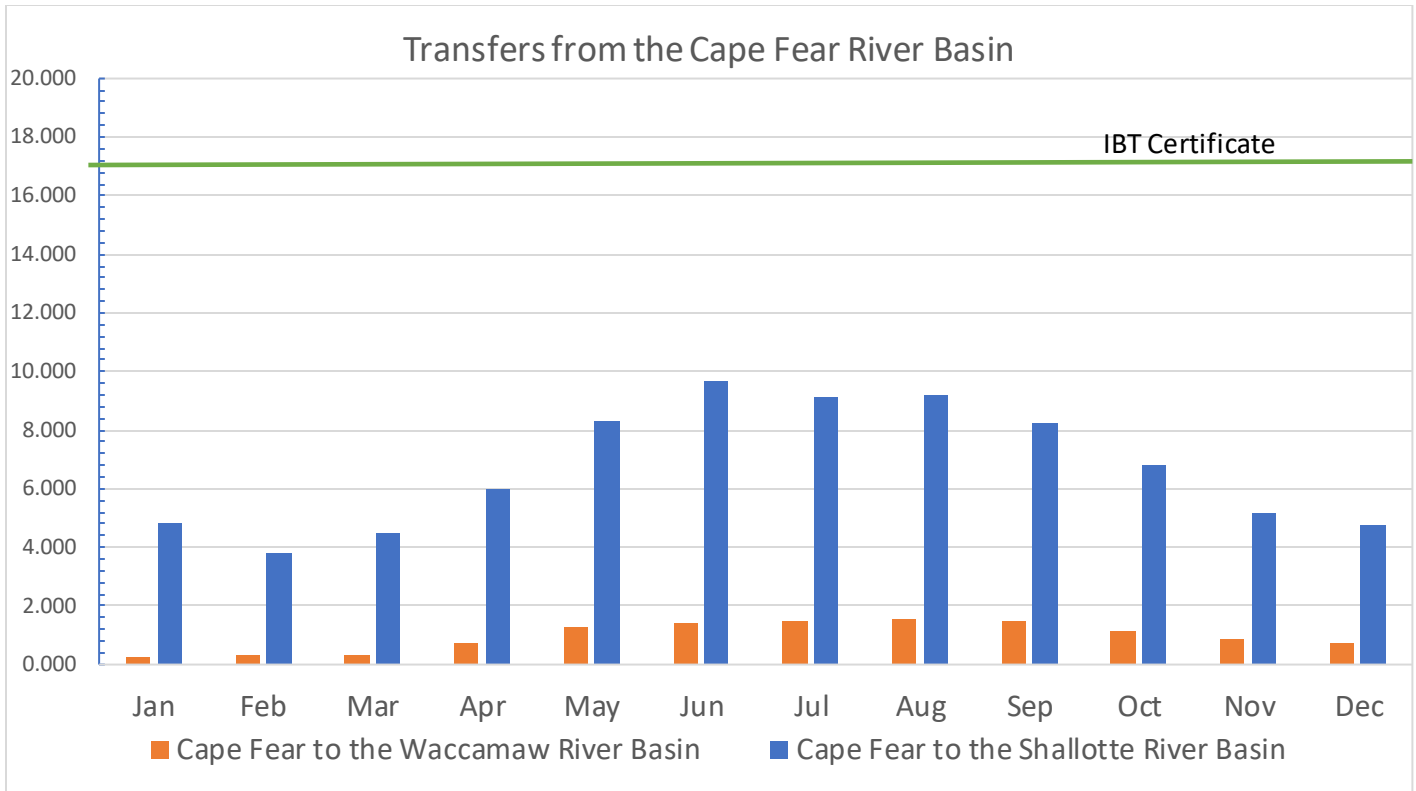


Figure 1.

## 2022 Interbasin Transfer Supporting Data

### PEAK MONTH - JUNE

#### WATER PRODUCTION AND TRANSFERS BETWEEN RIVER BASINS

#### ALL DATA REPORTED IN MILLIONS OF GALLONS

	June-22	June-22
Peak Month WTP Flows	Total Monthly Flow	Daily Average (MGD)
Northwest WTP (Surface Water)	642.947	21.432
NC 211 WTP (Groundwater)	135.676	4.523
Total Plant Flows	778.623	25.954
Total Billed Flows	692.366	23.079
Unaccounted for Water	86.257	2.875
NWTP % of Plant flow to total flow	83%	
Surface Water (NWTP) Portion of Billed flow	571.720	19.057

<b>Cape Fear River Basin Wholesale and Industrial Usage</b>	<b>June-22</b> Total Monthly Flow	<b>June-22</b> Daily Average
Bald Head Island 100%	4.859	0.162
H2GO/Leland) 100%	128.767	4.292
Oak Island 50%	23.779	0.793
Southport 100%	15.546	0.518
ADM 100%	41.636	1.388
Duke Energy 100%	8.352	0.278
Capital Power 100%	0.026	0.001
Sunny Point 100%	1.343	0.045
Surface Water Portion of Total	224.308	7.477
<b>Shalotte River Basin Wholesale Water Usage</b>		
Oak Island 50%	23.78	0.793
Holden Beach	24.830	0.828
Ocean Isle Beach	37.115	1.237
Shalotte	19.635	0.654
Total Flows	105.358	3.512
Surface Water Portion of Total Flow	87.000	2.900
<b>Retail Water Usage for Peak Month</b>	362.699	12.090
Surface Water Portion of Retail Flows	299.499	9.983
<b>Retail Surface Water Flow Per Basin</b>		
Cape Fear River Basin	95.055	3.168
Shalotte River Basin	155.071	5.169
Waccamaw River Basin	49.373	1.646

	<b>June-22</b>	<b>June-22</b>
<b>Surface Water Usage Billed Per Basin</b>		
Cape Fear River Basin	319.363	10.645
Shalotte River Basin	242.070	8.069
Waccamaw River Basin	49.373	1.646

**Billed Surface Water Flow Percentage Per Basin**

Cape Fear River Basin	46.13%
Shalotte River Basin	34.96%
Waccamaw River Basin	7.13%

	<b>June-22</b>	<b>June-22</b>
<b>Non-Revenue Flow Allocation Per Basin</b>		
(Based upon Billed Percentages)		
Cape Fear River Basin	39.787	1.326
Shalotte River Basin	30.158	1.005
Waccamaw River Basin	6.151	0.205

**Reuse Water Transferred Between Basins**

Shalotte to Cape Fear	14.482	0.483
-----------------------	--------	-------

**Wastewater Transferred (Diverted) Between Basins Per Month**

Cape Fear to Shalotte	20.843	0.695
Waccamaw to Shalotte	12.346	0.412
Shalotte to Waccamaw	0.000	0.000

<b>Net Total Surface Water Transferred in Peak Month (June)</b>		
Cape Fear to Shalotte River Basin	<b>290.935</b>	<b>9.698</b>
Cape Fear to Waccamaw River Basin	<b>43.178</b>	<b>1.439</b>

	<b>June-22</b>	<b>June-22</b>
<b>Wastewater Discharges</b>		
<b>Cape Fear River Basin</b>		
Northeast Brunswick Regional WWTP	59.364	1.979
<b>Waccamaw River Basin</b>		
Carolina Shores WWTP	12.348	0.412
<b>Non-Discharge Permits</b>		
	<b>June-22</b>	<b>June-22</b>
	<b>(MG)</b>	<b>(MGD)</b>
<b>Shalotte River Basin</b>		
Sea Trail WWTP	5.456	0.182
West Brunswick WRF	131.762	4.392
Shalotte WWTP	7.019	0.234
Ocean Isle Beach WWTP	17.207	0.574
Total Shalotte River Basin	161.444	5.381