

MAJOR FLOW MODIFICATIONS

OVERVIEW

The topography of the Tar-Pamlico River Basin consists of gently rolling hills in the Piedmont region to the relatively flat terrain in the Coastal Plain region. The rolling hills of the Piedmont where the topography provided suitable locations for the creation of reservoirs to impound surface waters. Most communities rely on surface water to meet their water supply needs from the free flowing streams or reservoirs. Slow moving streams surrounded by swamps, forests, low-lying marshes, and estuarine areas characterize the surface water flow in the Coastal Plain region. Downstream of the fall line that differentiates the Piedmont from the Coastal Plain, the characteristic flat terrain is not suitable for the development of reservoirs to satisfy water supply demands. Also, surface water in the lower portions of the basin from Grimesland downstream to the Pamlico Sound can vary from fresh to brackish water depending on inflow from the Tar River and are not suitable for water supply without special treatment. However, the accumulated layers of sediments that form the Coastal Plain contain a series of productive aquifers. Most of the communities of the Coastal Plain depend on groundwater pumped from these aquifers to meet their water needs.

There are not many reservoirs created as water supply sources in Tar-Pamlico River Basin. However, there are a few reservoirs used as surface water sources in the Upper Tar subbasin. The Tar River Reservoir above the City of Rocky Mount is the only impoundment constructed on the river as a source for drinking water. This reservoir supplies water to the City and other dependent communities.

OLD AND NEW CITY (FRANKLINTON) PONDS

The Town of Franklinton uses Old City Pond and New City Pond, which is also known as Franklinton Reservoir, as their two surface water sources. Old City Pond (Old Franklinton Lake) is located on Sally Kearney Creek [AU# 28-16-1-(1.5)] which drains to Taylor Creek [AU# 28-16], a small tributary to Tar River, at the Water Plant on Highway 56W. New City Pond (New Franklinton Lake) is located on Cedar Creek [AU# 28-29-(1.5)] at Long Mill Road. Both of these are small reservoirs with very small drainage areas.

TAR RIVER OR ROCKY MOUNT RESERVOIR AND ROCK QUARRY

In 1958 the United States Army Corp of Engineers surveyed and proposed three sites for a reservoir to serve as the primary drinking water source for the City of Rocky Mount. These sites, along the Tar River, were designated for future growth and water needs of the city. A severe drought in the Rocky Mount area in the fall of 1968 compelled city officials to enact ordinances to conserve water. This several months long drought resulted in the construction of the Rocky Mount Reservoir, or the Tar River Reservoir, completed in 1971. The reservoir holds 3.3 billion gallons of usable water at normal pool elevation of 25 feet above mean sea level. Tar River Reservoir is located on southeast side of the City of Rocky Mount between Highway 95 and Highway 97. To supplement the municipal supply needs during conservation period, there is also a quarry at the east side of Old Mill Road and Maple Creek near Highway 301 in Rocky Mount. This quarry is used to store water by pumping from the river during high flows and used as needed.

Table 1 lists the reservoirs and information such as normal water level, storage capacity and location. Figure 1 shows the locations of the water supply reservoirs all of which are located in the Upper Tar subbasin.

TABLE 1: MAJOR RESERVOIRS IN TAR-PAMLICO RIVER BASIN

WATER SUPPLY RESERVOIRS	NORMAL WATER LEVEL MSL-FT	DEAD STORAGE LEVEL MSL-FT	USEABLE STORAGE AC-FT	DRAINAGE AREA SQ-MILES	STREAMS	ASSESSMENT UNIT NUMBER	COUNTY
Old City (Franklinton) Pond	300	294.34	10	1	Taylor's Creek	28-16-1-(1.5)	Franklin
New City (Franklinton) Pond	354	347.34	22.8	5	Cedar Creek	28-29-(1.5)	Franklin
Tar River Reservoir	125	100	10123	775	Tar River	28-(35.5) 28-(36) 28-(63)	Nash
Rocky Mount Quarry	88	-89	2240	NA	Off Stream on Tar River	N/A	Nash

ac-ft - acre-foot is the volume covered by one foot of water covering one acre. An acre-foot equals approximately 325,900 gallons
 mgd - million gallons per day
 msl-ft - mean sea level feet is the elevation in feet above mean sea level

FIGURE 1: RESERVOIRS IN TAR PAMLICO RIVER BASIN

