



SURVEY SUMMARY  
NCWRC – Inland Fisheries Division – Coastal Region



## Tar River Largemouth Bass Survey, 2021

### NEED

The Tar-Pamlico watershed is the fourth largest in North Carolina, encompassing 14,090 km<sup>2</sup>. The Tar River supports a recreationally important freshwater resident fish assemblage. Concern about poor fishing success for Largemouth Bass in the Tar River was reported by anglers in spring 2021. However, there were no hurricane associated fish kills or any other factors that could be attributed to a decrease in Tar River Largemouth Bass abundance.

### OBJECTIVE

Conduct an electrofishing survey in fall 2021 to document the status of the Largemouth Bass population in the Tar River and identify any changes that have occurred since the last survey.

### METHODS

**Personnel:** Todd VanMiddlesworth and Ben Ricks - District 2 Fisheries Biologists.

**Waterbody:** Tar River - 17 sampling sites.

**Fish Sampling Gear:** Boat-Mounted Electrofishing, High Frequency, 7.5 GPP, 120 PPS, 6 A.

**Other Gear Utilized:** YSI water quality meter for water temperature (°C), dissolved oxygen (mg/L), % saturation, conductivity (µS/cm), salinity (ppt).

**Species of Primary Interest:** Largemouth Bass

**Sample Date(s):** November 2–18, 2021

**Funding Source:** Federal Aid in Sport Fish Restoration and agency license receipts.

**Project Name in BIODIE Fish:** Tar River Sportfish Community Survey

**Citation:**

VanMiddlesworth, T. D., and B. R. Ricks. 2021. Tar River Largemouth Bass Survey, 2021. North Carolina Wildlife Resources Commission, Federal Aid in Sport Fish Restoration, survey summary, Raleigh.

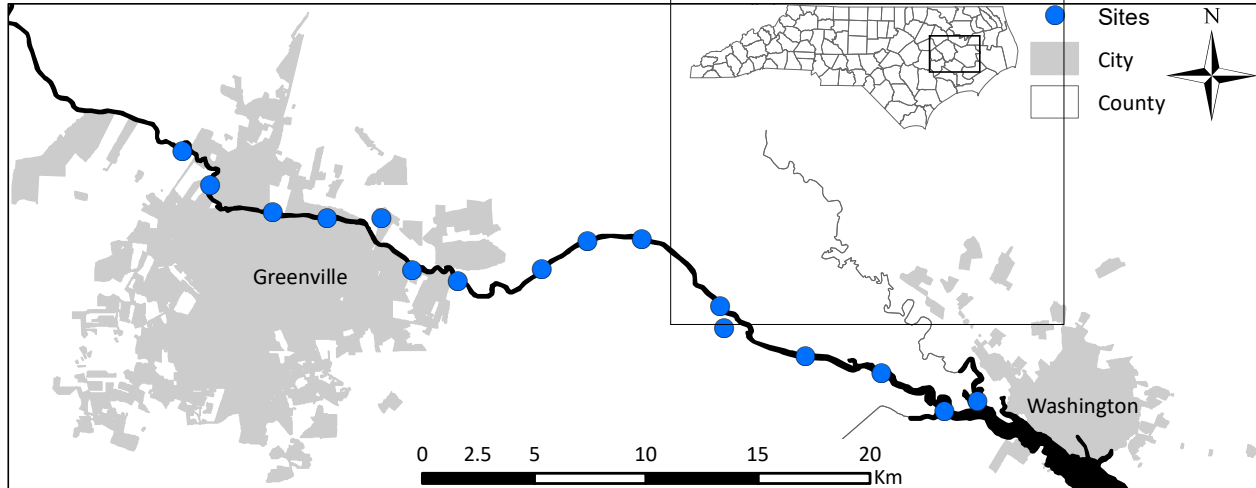


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#### STUDY AREA



#### BIOLOGICAL OBSERVATIONS

The 2021 Tar River Largemouth Bass Survey was conducted at 17 sampling sites (Table 1). Largemouth Bass ( $n = 244$ ) ranged from 96 to 606 mm. Quality-length ( $n = 69$ ) Largemouth Bass were the most abundant followed by stock-length ( $n = 68$ ), preferred-length ( $n = 56$ ), and memorable-length ( $n = 5$ ). No trophy-length Largemouth Bass were collected. The mean relative weight for Largemouth Bass (90) suggested adequate body condition and forage availability. Of the 198 Largemouth Bass collected stock-length and larger, 34% were stock-length, 35% were quality-length, 28% were preferred-length, and 3% were memorable-length. While no trophy-length fish were collected, Largemouth Bass were observed in a variety of sizes. Evidence of spawning was observed in spring 2021 as 21 fish (9% of sample) were observed under 150 mm (Table 2, Figure 1). Largemouth Bass were observed in greater abundances (22 fish/h) in 2021 than in 2019 (13 fish/h) (Table 2). Furthermore, Tar River Largemouth Bass should provide adequate angling opportunity and continued spawning success. Results documented in this survey effort were similar to the 2019 survey.

#### MANAGEMENT RECOMMENDATION

Survey the Tar River every three to four years during the fall with boat electrofishing gear to examine trends in population and recruitment variability and evaluate regulations.



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TABLE 1. Sample site information for the 2021 Tar River Largemouth Bass Survey. Discharge data were recorded on the USGS Greenville, NC, Tar River gauge number 02084000 located near the Greenville Town Commons Boating Access Area.

Sample date	Boating access area	Discharge (cfs)	Site name	Latitude	Longitude
Nov 2	Masons Landing	537	UPPER TRANTERS CREEK	35.58902	-77.1146
Nov 4	Masons Landing	522	TAR-TRANTERS1	35.5554	-77.0881
Nov 8	Port Terminal	327	Port Terminal	35.5981	-77.3151
			TAR34	35.6170	-77.3711
Nov 15	Masons Landing	320	TAR10	35.5700	-77.1572
			TAR4	35.5522	-77.1016
			TAR7	35.5644	-77.1266
Nov 16	Port Terminal	297	TAR-CHICOD1	35.5791	-77.1899
			TAR14	35.5864	-77.1916
			TAR18	35.6083	-77.2230
			TAR20	35.6075	-77.2446
			TAR22	35.5982	-77.2631
Nov 18	Greenville Town Commons	307	TAR-SANDPIT1	35.6152	-77.3273
			TAR26	35.5947	-77.2967
			TAR32	35.6152	-77.3493
			TAR37	35.6257	-77.3963
			TAR40	35.6369	-77.4075

TABLE 2. Summary statistics for Largemouth Bass collected with electrofishing during the 2021 Tar River Largemouth Bass Survey.

Length category	Number collected	Minimum total length (mm)	Maximum total length (mm)	Mean total length (mm)	Mean Wr	CPUE (fish/h)	Incremental PSD
Sub-stock	46	96	196	155	-	4.1	-
Stock	68	201	296	244	89	6.1	34
Quality	69	301	377	342	91	6.2	35
Preferred	56	382	499	428	91	5.0	28
Memorable	5	510	606	545	87	0.5	3
Total	244	96	606	304	90	22.0	-



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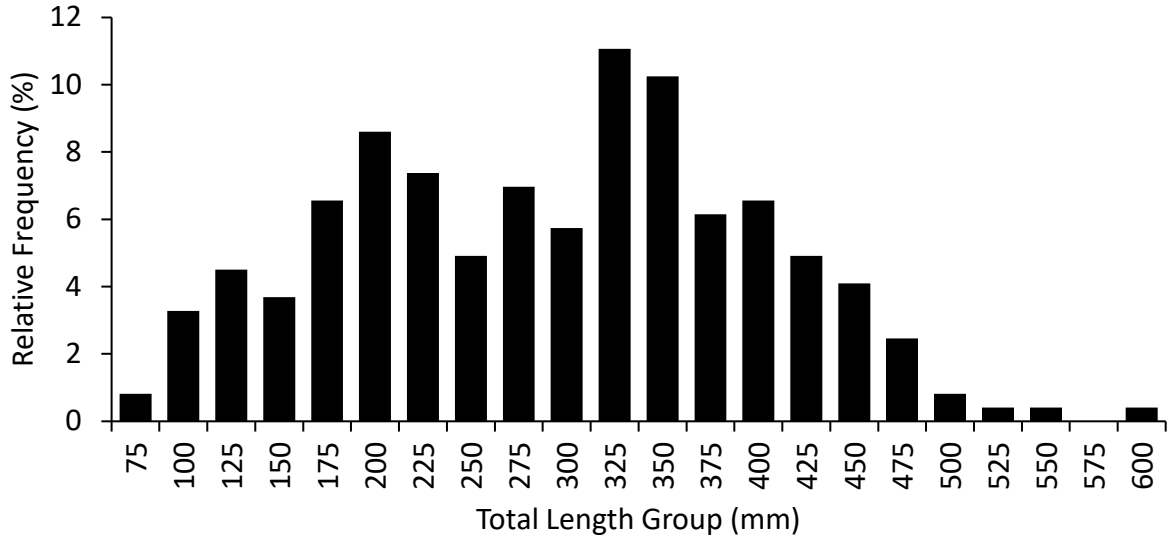


FIGURE 1. Length frequency distribution of Largemouth Bass (n = 244) collected during the 2021 Tar River Largemouth Bass Survey.