Fisheries Research Fact Sheet

2018 Catfish Survey in the New River Onslow County, North Carolina

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Ben Ricks/NCWRC

The 129-mile New River is a unique river system in coastal North Carolina that begins and ends in Onslow County. Unlike other rivers, the New River flows directly into the Atlantic Ocean. As a result, there is a well-defined estuarine zone from the mouth to Jacksonville, N.C. Depending on the amount of rainfall, this estuarine zone can extend beyond Jacksonville when the lack of freshwater allows the salt wedge to encroach farther upriver. The lower New River is well known by anglers as an excellent fishing destination for Spotted Seatrout, Red Drum, and flounder. Conversely, the freshwater fish populations upstream of Jacksonville remain underutilized by many anglers. These freshwater fisheries include Largemouth Bass, Bluegill and other sunfishes, and catfish.

Though not frequently pursued by anglers in the New River, catfish are among the most targeted recreational species in North Carolina. According to a recent survey conducted by fisheries biologists with the N.C. Wildlife Resources Commission (NCWRC), 30% of the total freshwater angling effort in North Carolina is expended in pursuit of various catfish species. Catfish are not classified as game fish, and may be taken using hook and line, grabbling, trotlines, set-hooks, jug-hooks, and a variety of county-specific special devices. Additionally, catfish are generally not managed with length limits, and the daily creel limit is 200 in aggregate with other nongame fish.

The New River is unique because it is one of the few rivers within our state having catfish populations comprised entirely of native catfish species, primarily White Catfish, though Brown Bullhead were also observed in low abundance. No nonnative Flathead Catfish or Blue Catfish have been found. This is noteworthy, as invasive catfish species in coastal North Carolina are widespread and threaten the conservation of native and migratory fish populations through predation and competition. Although the 2018 sampling represents the first targeted catfish survey in the New River in recent years, nonnative catfish were noticeably absent from sportfish surveys conducted from 2004 to 2012 as well, which further supports the conclusion that invasive catfish are not in the system. Due to biologists' findings of only native catfish species in the New River, consideration of strategies intended to protect these populations is warranted. Conservation efforts are essential because native catfish are a rapidly dwindling resource in North Carolina that is not easily restored once compromised.

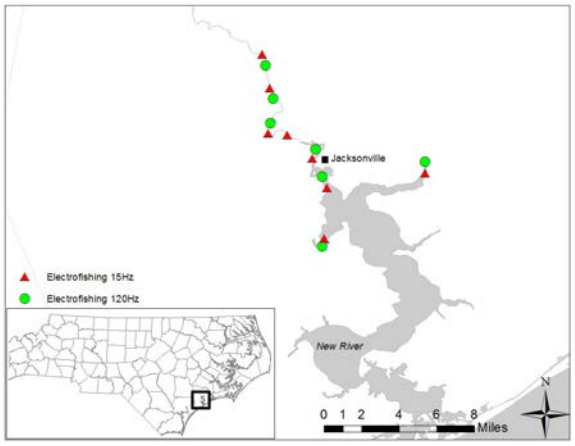

Figure 1. Distribution of high-pulse and low-pulse sample sites in the New River, 2018.

A N.C. Wildlife Resources Commission biologist measures the length of a White Catfish on the New River, NC. (Photo: NCWRC)

White catfish (Photo: North American Native Fishes)

2018 Catfish Survey in the New River, Onslow County, North Carolina

Project Objectives:

- Document the status of catfish populations in the New River,
- Confirm the absence of invasive catfish species, and
- Evaluate the need for regulations.

Methods:

- 15 sites on the New River from Half Moon to Jacksonville were sampled for catfish.
- High-pulse (120 pulses per second) and low-pulse (15 pulses per second) electrofishing methods were employed (Figure 1, previous page)
- Once fish were collected and identified, length and weight were recorded.
- Catch per unit effort (CPUE) as defined as number of fish per hour (fish/h) was calculated.

Results:

- Field staff collected 153 White Catfish and 4 Brown Bullhead.
- White Catfish CPUE was 40 fish/h using low frequency methods and 12 fish/h using high frequency methods (Table 1).
- Brown Bullhead CPUE was <1 fish/h using low frequency methods and high frequency methods (Table 1).
- White Catfish collected had an average weight of 0.5 kg (1 pound) and ranged from 2 g to 1.9 kg (up to 4.2 pounds).
- The White Catfish length distribution had two peaks, and is indicative of a healthy, established population, ranging from 44–507 mm (2–20 inches) with 37% of White Catfish less than 125 mm (5 inches) and 45% between 300–400 mm (12–16 inches; Figure 2).

What's next?:

- Since native catfish populations are declining throughout the state, assigning gamefish status to native catfish species and/or proposing creel limits that would protect native species could be considered.
- The New River is one of few systems in the central coast of North Carolina that supports native populations of catfish. Additional protective status of rivers that remain undisturbed by invasive catfish should be considered, including measures against stocking nonnative species within these drainages.
- Continue to monitor catfish populations every 3–5 years to document changes in fish assemblages and water quality of the dynamic tidewater areas characteristic of the coastal plain.

Species	Catch	CPUE (SE)	
		15 Hz (n=8)	12 Hz (n=7)
White Catfish	153	40 (8)	12 (8)
Brown Bullhead	4	0.6 (0.4)	0.7 (0.5)

Table 1. Catch and catch per unit effort (CPUE) of catfish species sampled in the New River, NC.

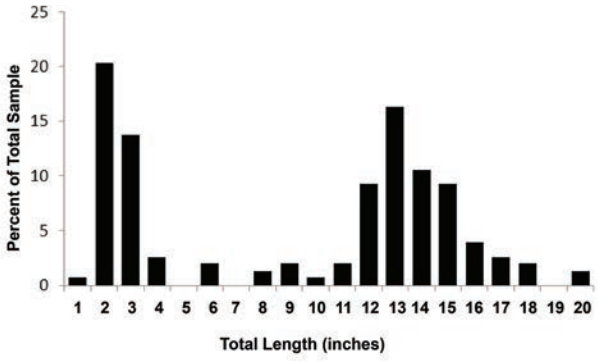

Figure 2. Length-frequency distribution (n = 153) of White Catfish collected in the New River, 2018.

White Catfish (Duane Raver/USFWS)

Brown Bullhead (Duane Raver/USFWS)

For more information, contact:

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