



2026 Musky Fishing Forecast

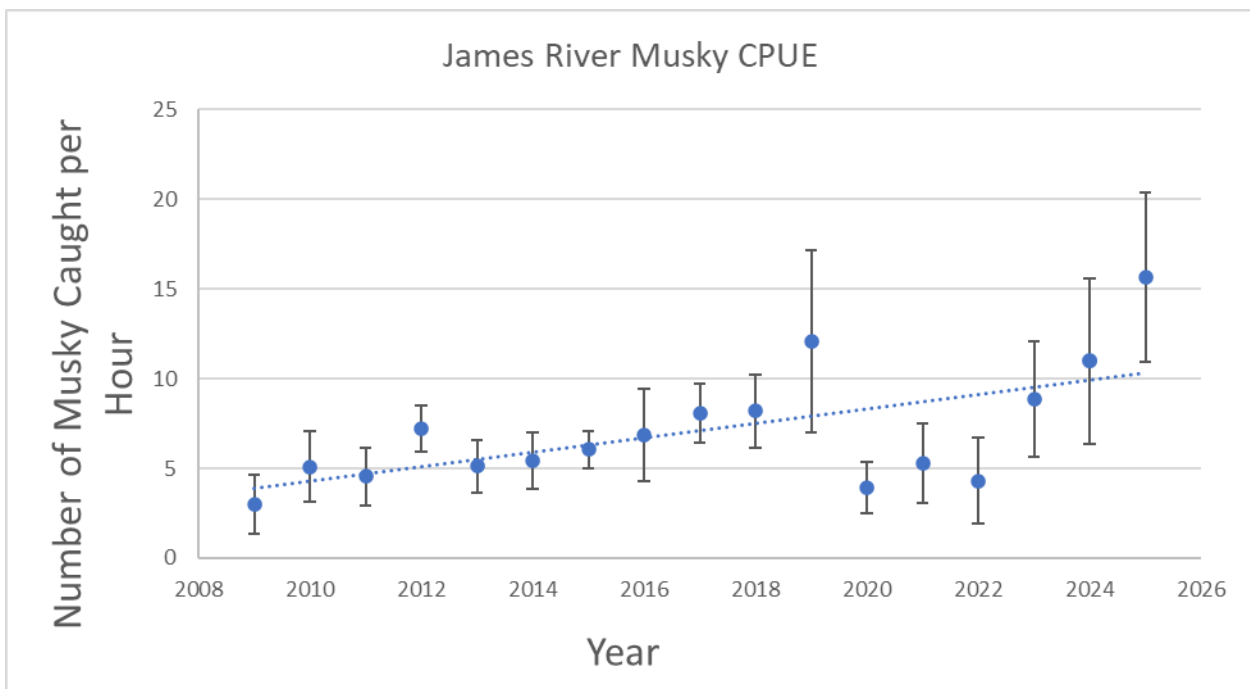
Region 2

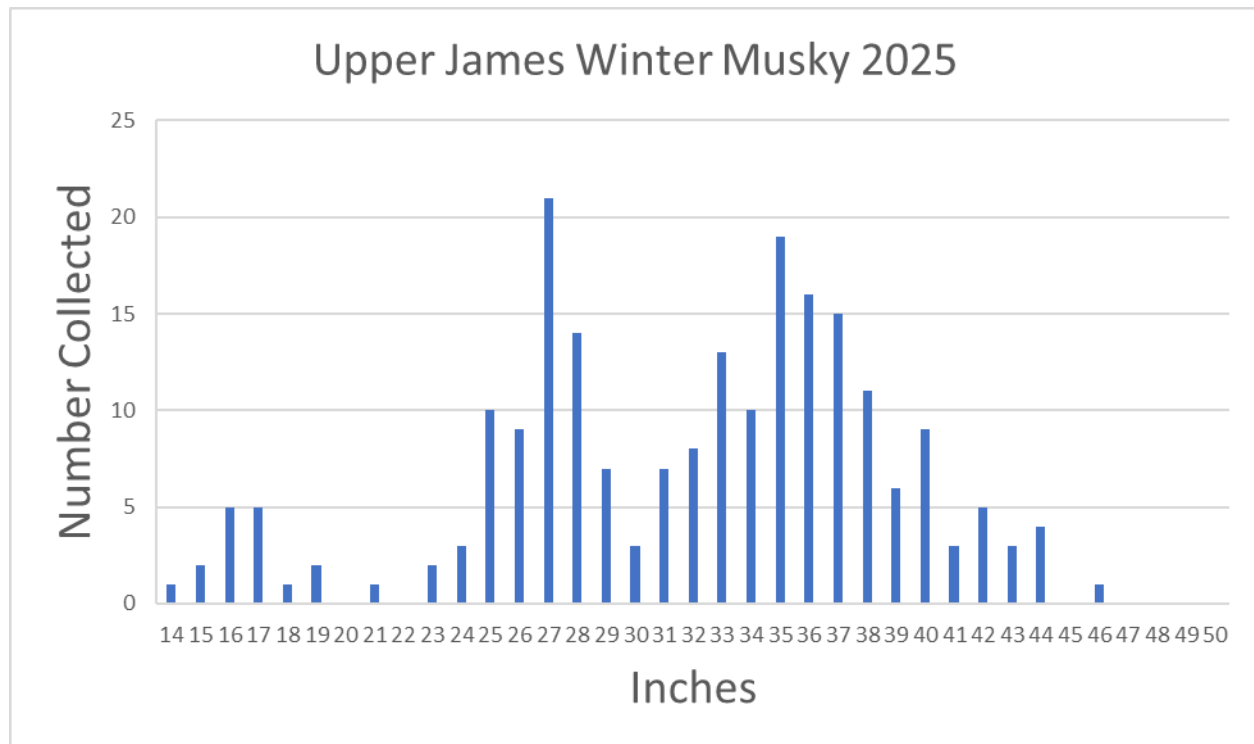
JAMES RIVER (Upper)



The upper James River begins at the confluence of the Jackson and Cowpasture Rivers near Iron Gate and flows approximately 90 miles downstream to the City of Lynchburg. In winter 2025, biologists collected 216 muskies using an electrofishing boat from 10 sites throughout the upper James River. Electrofishing catch rates are calculated in terms of fish collected per hour. Catch rates in 2025 were the highest on record, approximately 15 fish per hour.

The muskies collected ranged from 14 to 46 inches in length. Most adult muskies collected measure between 32 and 40 inches. It appears the muskies population had a successful spawn in spring 2024, as numerous young-of-the-year muskies (fish less than 20 inches) were collected. Previous years of good spawning are also represented in the abundance of fish between 25 and 30 inches. Catch rates of larger muskies (44 inches or greater) were less than what was collected in previous years. However, given the high number of juvenile muskies, anglers should expect good muskie fishing for the next several years.





James River Exploitation Study

Over the last 20 years musky fishing on the James River has grown in popularity. While biologists are monitoring the musky population with annual electrofishing surveys, little data was available for how musky anglers use this fishery. Evaluating exploitation allows biologists to better understand how a fishery is being used and helps address questions such as - Are anglers targeting these fish? How many fish are being caught? Are anglers harvesting fish? From 2016-2019 biologists tagged 1,006 muskies in upper James River with yellow tags as part of an exploitation study. The river was broken into two parts an “upper” section (from the headwaters down to the confluence of the Maury River) and a “lower” section (from the confluence of the Maury River down through Lynchburg). Biologists determined exploitation in the upper sections to be 57% and 100% in the lower section. Meaning approximately half of the muskies in the upper section and all the muskies in the lower section are caught at least once annually. Eighty-eight percent of anglers were targeting muskies when the fish was caught. Only four fish, approximately 1%, were reported harvested over the four-year study. These results indicate the James River has a heavily exploited catch-and-release musky fishery. Muskies are a long-lived species, capable of being caught repeatedly during their lifetime. Anglers are encouraged to use the proper equipment and best handling techniques when musky fishing. The high rates of exploitation support the need for annual monitoring, ongoing angler education, and may justify the need for supplemental stocking if needed in the future.

Warm-water Catch-and-Release Mortality

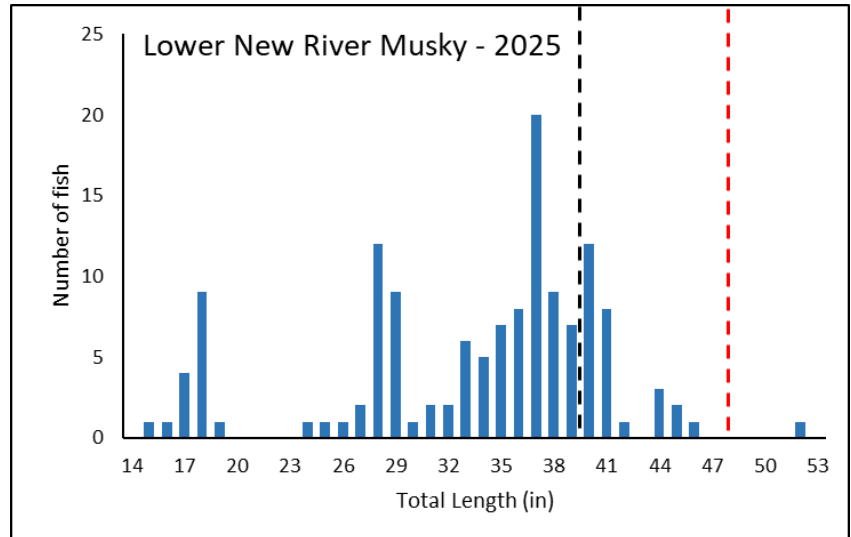
The findings in the exploitation study left biologists wondering if the extreme levels of catch-and-release would affect the ability to sustain high catch-rates and the potential for fish to grow to trophy sizes. Anglers voiced concerns particularly over the effects of angling during the summer months. DWR teamed up with Coastal Carolina University to implant adult muskies in the James River with radio transmitters, catch these tagged fish with rod and reel, then track their locations following release to see if the fish survived. In winter 2020 and 2021, a total of seventy-five muskies were tagged with transmitters. Of those tagged fish, twelve (7 fish in 2020 and 5 fish in 2021) were successfully caught during the summer months. Four of these 12 fish died shortly after release, leading to a mortality estimate of approximately 33%. This mortality rate is significantly higher than the estimated natural mortality during the warm-water summer period. However, a tremendous amount of fishing effort, over 100 trips totaling over 600 hours of angling, by the study group and local musky anglers went into catching these 12 individuals. Given the low catch rates, it is unlikely that the mortality from warm-water catch-and-release is negatively impacting muskies growing to trophy size in the James River.

Anglers may still consider not targeting muskies during summer months as these fish are thermally stressed and this study documented higher mortality rates during warm-water periods.

Region 3 NEW RIVER

The lower New River should provide anglers with great opportunities to catch a musky in 2026. Although electrofishing catch rates during the 2025 electrofishing sample were down slightly compared to previous years, there are still good numbers of adult fish out there to challenge any angler.

The figure to the right shows the relative abundance of musky of various sizes observed during the 2025 sample. Fish in the 15–19-inch range represent juvenile fish that would have been spawned in the spring of 2024. These younger fish are critical to the sustainability of the musky population in the lower New River and the number observed in 2025 suggests an average spawn when compared to previous sampling years.



The black and red vertical lines in the figure represent the lower and upper limits, respectively, of the protected slot limit in place for this species from June 1st – February 28th. The red vertical line also represents the 48-inch minimum length limit for musky designed to protect spawning adults from March 1 – May 31st. Adult musky observed in 2025 ranged in length from 24 inches to a massive 52-inch female that weighed just one pound shy of the current state record for this species. Seventy-eight percent of adult musky in the lower New River measured ≥ 30 inches while 29% were 38 inches or larger. Approximately 6% of adult musky exceeded 42 inches in length.

One important observation from the length figure is the apparent continued stockpiling of musky in the 35-to-39-inch length range. Previous research conducted by Virginia Tech revealed slower growth of musky in this size range and attributed it to increased competition among the fish in this abundant length group. This research led to the establishment of the current slot limit regulation, which was designed to encourage some harvest of musky below 40 inches while protecting larger fish. The harvest of musky on the lower New River is extremely low, however, and may limit the ultimate effectiveness of this regulation.

The best areas for anglers to target musky continue to be the reach between Claytor Dam and Radford and the area of Whitethorne. These two stretches of river consistently produce some of the highest sampling catch rates compared to other parts of the lower New River.

Region 4

SOUTH FORK SHENANDOAH

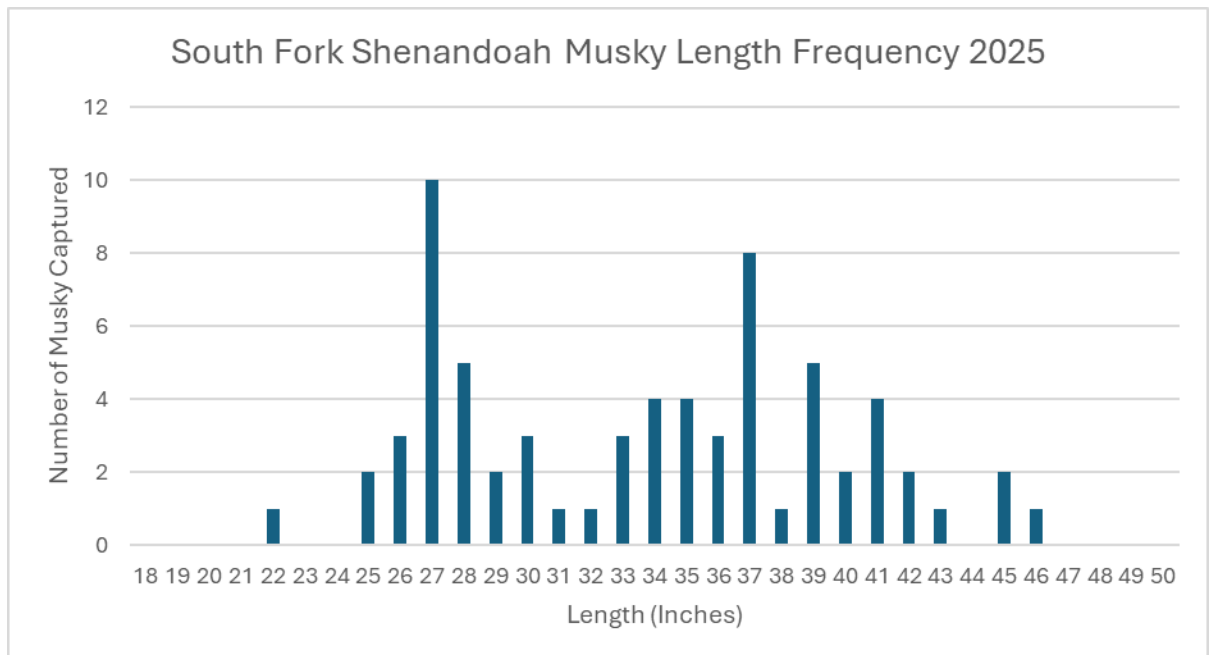
During the winter of 2024 / spring of 2025 department biologists, technicians, and hatchery staff sampled the South Fork Shenandoah using boat electrofishing equipment. Unlike traditional boat electrofishing samples, we use three boats to help us corral the fish and increase our sample size. Four permanent sites are sampled annually.

During the most recent sampling event, biologists collected a total of 68 fish at a rate of 6.4 fish per hour, approximately 66% were 30" or greater, 26% topped 38", and 7% exceeded 42" (Figure 1). No fish greater than 46 inches were captured. After observing a few years of average catch rates, consistent stocking has had a positive impact on the population (Figure 3). We observed the third highest catch rate of juvenile fish, which indicates good survival of stocked fish and possibly some successful spawning in the wild. With good survival, this group of juveniles will help maintain the population for years to come.



In 2026 anglers can expect a higher than average number of musky with a slight increase in the number of fish in the 40"+ class (Figure 2). Musky grow fast in Virginia, with females reaching citation size (40") in 5-6 years. VDWR periodically stocks fingerling-size musky in the South Fork Shenandoah River at 15 sites stretching from Port Republic to Front Royal. It was last stocked in 2024 with 2,983 fingerling musky (approximately 3-4"). Spawning has been documented in the South Fork, but it can be very inconsistent. Therefore, stocking is used to maintain the population. However, biologists are currently very happy with the current numbers and size structure, so no muskies were stocked in the summer of 2025. Adult musky densities are not as high as some of the other rivers in the state due to the lack of consistent pool habitats. However, when you come across a pool on the South Fork, anglers have a good opportunity to encounter one.

Figure 1: Shows all the lengths of each musky collected during the 2025 sampling season



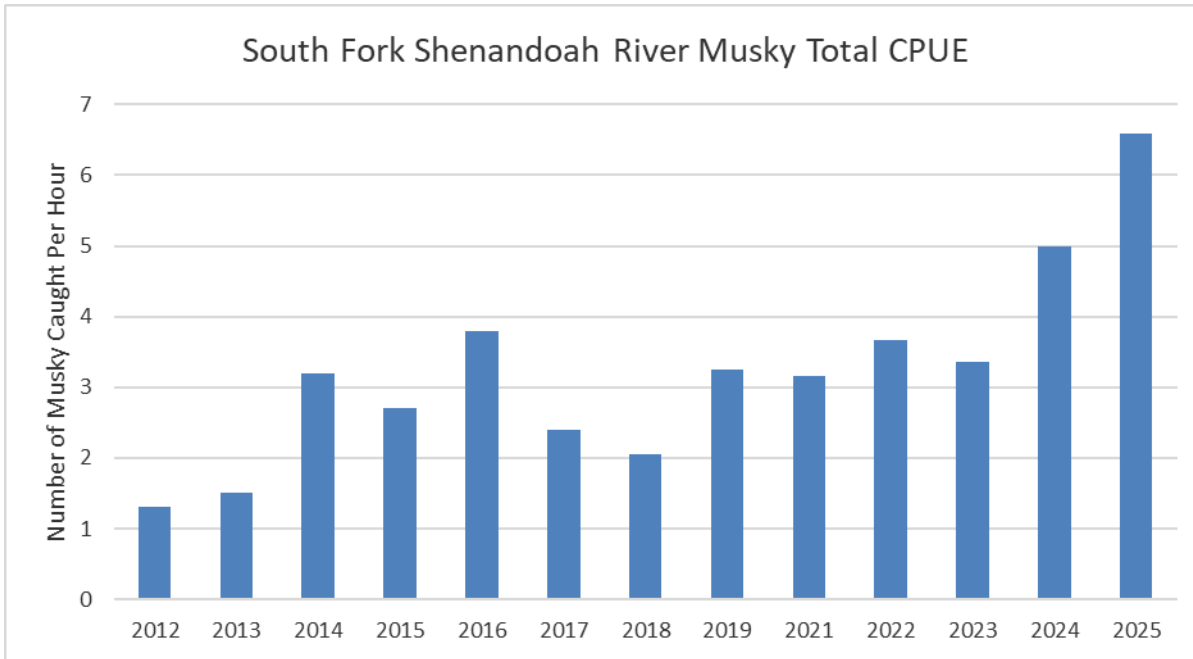


Figure 2: Shows the number of musky caught per hour across all sites from 2012 - Present

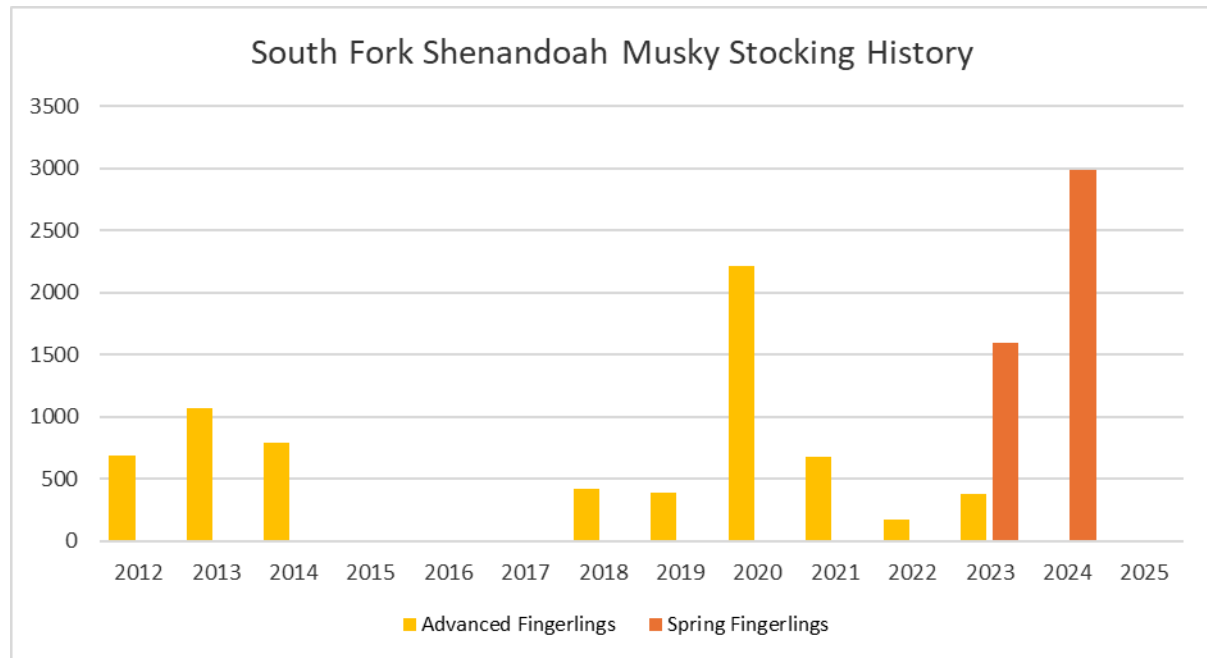


Figure 3: Shows stocking history over time. The yellow bars indicate advanced fingerling (6-8") and the orange bars indicate spring fingerlings (3-4")

FOR MORE INFORMATION ON VIRGINIA'S NON-TIDAL RIVERS, CONTACT THE FOLLOWING REGIONAL OFFICES:

- **Staunton River and Middle James River: Farmville Office (434) 392-9645**
- **Upper James River: Forest Office (434) 525-7522**
- **New River: Marion Office (276) 783-4860**
- **Rappahannock and Rapidan Rivers: Fredericksburg Office (540) 889-4169**
- **Shenandoah Rivers: Verona Office (540) 248-9360**