

Delaware River

Monroe County

Springtime American Shad Spawning Run Monitoring, 2018

Management of American Shad (*Alosa sapidissima*) in the Delaware River is a collective effort undertaken by the Delaware River Basin Fish and Wildlife Management Cooperative (Co-op) member agencies, under the direction of the Atlantic States Marine Fisheries Commission (ASMFC). The Pennsylvania Fish and Boat Commission (PFBC) has a long-term historic association with management of this anadromous species and is a member of both groups. Shad are managed under the [American Shad Sustainable Fisheries Plan \(SFP\)](#) accepted by the ASMFC in February 2017. We annually present assessment results required by this plan to the public in this summary report. We caution that contents reflect current findings and cursory interpretations; thus, these results must be considered provisional, as additional analysis, scrutiny, and review will follow.

Smithfield Beach Spawning Effort

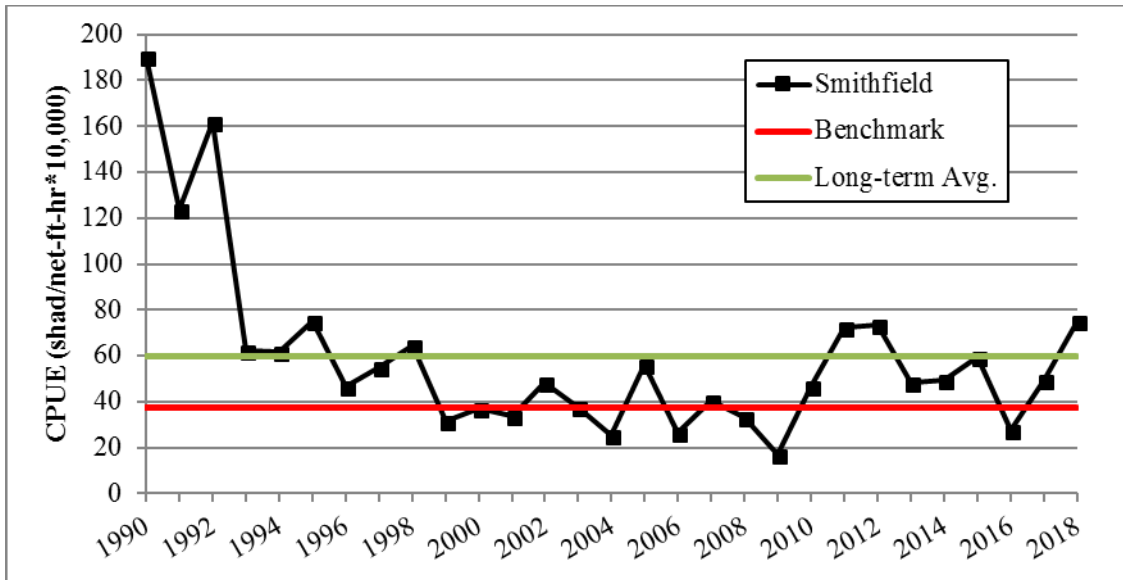
The PFBC annually monitors abundance of the run of returning American Shad each spring via gill netting at Smithfield Beach (RM 218.0). Atypical river conditions occurred for most of the 2018 shad spawning season run. The consistent cold-water temperatures coupled with the high, turbid river flows appeared to delay shad spawning activities by two weeks past the typical peak spawning period.

Night-time gill netting occurs during May targeting adult shad that are actively spawning within the pool. A total of 820 shad (694 females, 126 males) were collected. Shad size ranged from 15.8 to 22.9 inches total length (TL) for females, and 16.7 to 21.3 inches TL for males. The most numerous catches occurred during the days following Memorial Day, when spawning activities increased with improved river conditions (temperatures and flows moderating). The 2018 catch-per-unit-effort (CPUE) was 75.16 shad/(net-hour* 10,000), which ranked 4th over the 29-year monitoring time-series (1990-2018; Figure 1).

We are extremely pleased with the number of returning adults for the 2018 season. The 2018 CPUE was above the long-term average, suggestive of a good return of shad to the Delaware River. Placing the 2018 CPUE into context with past measurements from 1990 – 1992, we note that a present day “exceptional spawning run” remains elusive. Nonetheless management actions are not warranted, given the 2018 CPUE was well above the SFP management benchmark.

Co-op members are planning to initiate the ongoing young-of-the-year (YOY) beach seine program later this year, August through October. We remain hopeful that the relatively large spawning run this year will yield an equally abundant YOY American Shad index.

Figure 1. Annual catch-per-unit-effort for American Shad from the Delaware River at Smithfield Beach during adult collection associated with the egg-take for fish culture operations, 1990 - 2018.



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