

# Tournament News



We Bring You Delaware's Great Outdoors  
through Science and Service



Submit tournament reports at: <http://de.gov/lmbtourney>

Summer 2019

Its been way too long since the last newsletter was sent to you! Thank you for sending in your 2019 tournament reports - keep them coming. The data ultimately benefits bass anglers because it is used to inform our management of Delaware's bass populations. There is too much to report—stay tuned for a follow-up in winter 2019/2020. We hope to see you while we are out on the water or visiting tournaments. Please get in touch if there is anything I can help with!

Sincerely, *Edna* (302) 735-8654

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## CONTACT INFORMATION:

### Tournament Reports

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- Brandi Besecker; 302-739-9913

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### Fish & Wildlife Enforcement

- New Castle/Kent County  
302-739-6139
- Sussex County  
302-855-1901

### Report Violations

- 302-739-4580
- 1-800-523-3336

### 24-hour Enforcement Number:

- 1-800-662-8802

### Operation Game Theft:

- 1-800-292-3030

## Fisheries Section Updates

### Largemouth Bass Specialty License Plate

Now available from the Division of Motor Vehicles for a one time fee of \$95. The plate features a leaping Largemouth Bass, designed by renowned fish artist Duane Raver. The plates are the result of a collaboration of the Division of Motor Vehicles, Division of Fish and Wildlife, and the Council on Recreational Fishing Funding. Proceeds from the sale of the plates will be used by the Division of Fish and Wildlife to enhance recreational fishing opportunities in Delaware.



### Sport Fish Restoration Program



Gabe Gries (USFWS) conducted site visits in Delaware to see projects that receive sport fish funds. He participated in the tidal Largemouth Bass population survey that the Division conducted on the Nanticoke River in the fall of 2018.

The Sport Fish Restoration Program, which is administered by the U.S. Fish and Wildlife Service (USFWS), provides grant funds to states for the restoration and management of fisheries resources. The program is authorized by the Sport Fish Restoration Act of 1950. The funds are obtained primarily from excise taxes on fishing equipment, and on motorboat and small engine fuels. The Delaware Division of Fish and Wildlife, Fisheries Section, utilizes the funding for many of its marine and freshwater sport fish management projects. The funds are also used for boating access and aquatic resource education. States can apply for grants through the USFWS to receive the funds which can cover up to 75% of project costs. The amount of funds apportioned to each state depends on land area and the number of licensed anglers.



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## State Pond Sampling 2018 and 2019

The Division of Fish and Wildlife conducts fish community sampling via electrofishing at 6-8 State-managed ponds per year. Each of the state's 35 ponds are sampled about once every five years. Population characteristics of each species are evaluated to determine if it's balanced and in good condition. Results of the sampling are compared with historical values to detect trends in abundance, size structure, and condition to determine if management actions are needed.

Pond	Catch Rate: Bass/Hr	Bass *PSD	Bass **RSD-P	#Average Relative Weight	Comments:
Chipman Pond	65.4	53.8	23.1	104.9	Above average county catch rates for Largemouth Bass and Bluegill >6". Proportion of quality size and preferred size bass within target range. Spawning and recruitment fairly consistent.
Concord Pond	29.8	77.1	27.7	96.5	Low density bass population with above target numbers of ≥12" bass. Numerous gaps in size distribution indicate sporadic spawning and recruitment. A variety of panfish species occur, including citation-size Redear and ample number of Bluegill ≥6".
Griffith Lake	53.5	45.0	31.0	96.3	Bass catch rate increased by 200% compared to 2015 survey, likely due to stocking of 500 bass of various sizes. The most abundant size group was 10-12" Bass. Deep water structure was added in five areas of pond in 2016. Intermediate BG stocked in 2019.
Garrisons Lake	29.7	88.9	33.3	95.7	Low density bass population comprised of above target range numbers of ≥12" & ≥15" bass. Very low density panfish population not likely to provide adequate forage. Favorable decline of small white perch. Habitat/water quality improvements needed.
Hearns Pond	84.0	54.1	21.6	103.3	Above average county catch rates for bass. Proportion of ≥12", ≥15", and bass ≥18" should provide abundant catchable size fish. Panfish extremely abundant. Over 200 intermediate size Bluegill (4"-6") relocated in 2019 to restore balance.
Killens Pond	60.7	60.0	35.0	92.1	Slight increase in catch rate of bass compared to 2014 survey. A good proportion of bass ≥12" & ≥15". Several citation size bass caught during survey. Bluegill population declining but comprised of good proportion of ≥6" individuals. Black Crappie population stable with improved relative weights.
Massey Mill Pond	74.8	60.0	32.0	93.5	Bass catch rate more than doubled compared to the 2014 survey. Bass ≥12" & ≥15" within target range. Gaps in bass size distribution indicate sporadic spawning and recruitment. Bluegill and Black Crappie populations increasing.
McColley Pond	123.7	44.2	19.2	92.2	Bass population more than doubled compared to previous survey in 2013, with an abundance of 10-12" fish. Quality and preferred size bass within target range. Citation size bass reported fairly consistently by anglers. Growing Black Crappie population.
Moores Lake	101.0	43.8	20.8	90.5	Growing bass population with 10"-12" bass most abundant. Catch rate for bass ≥15" above county average. Variety of panfish species present, dominated by Bluegill ≤6. Good number of quality size Black Crappie ≥8". Golden Shiner stocked to increase forage.
Mud Mill Pond	77.9	69.2	30.8	91.6	Snakehead present in pond. Growing bass population-12-15" bass the most abundant size group. 25% of bass caught in spatterdock by dam. Small Bluegill (BG) dominate panfish, but good number of Black Crappie ≥8". Intermediate size BG stocked in 2019.
Trap Pond	90.7	70.6	47.1	101.8	Bass catch rate more than doubled compared to 2014 survey. High proportion of bass ≥12"& ≥15". Bluegill, Black Crappie, Redear, & Yellow Perch populations increased. Improved size structure of Black Crappie following 2018 fish kill. Citation size crappie caught during the 2019 survey.

*\*PSD Proportional Stock Distribution: the proportion of quality size bass (≥12"), target values for moderate densities of bass are between 40-70*

*\*\*RSD-P Relative Stock Distribution-Preferred: the proportion of preferred size bass (≥15"), target values for moderate densities are 10-40*

*#Avg Relative Weight: measure of condition ('plumpness'); target value is ≥90; values <90 indicate issues w/density, feeding or other factors*

## Broadkill River Largemouth Bass Population

The Broadkill River bass population was evaluated in the fall of 2018 during two days of electrofishing. All bass that were collected were measured, weighed and inspected prior to release. The data was used to assess abundance, condition, and size structure of the population. The survey began at the boat ramp in the Milton town park and ended at the first set of overhead powerlines. Although the extent of freshwater habitat in this river system varies with precipitation and tide, salinity downstream of the powerlines is often too high (>0.3ppt) to effectively operate the electrofishing unit. Survey results in 2018 indicated a decline in abundance compared to 2017, but an increase compared to numbers observed 2013-2016. Abundance was evaluated via a mark-recapture study of bass  $\geq 6''$  (150mm) which revealed an estimated population size of 480 bass (with a range of 214 - 1,200 bass, 95%CI). Abundance was also evaluated using the number of bass caught per electrofishing hour (bass/hr) which was 54.3 bass/hour. This was a 10% decrease from 2017 (60.3 bass/hr), but a 412% increase from 2016 (10.6 bass/hour). It is unlikely that the population grew exponentially since 2016, but rather that environmental conditions, especially precipitation levels, conductivity and tidal condition are influencing bass distribution and thus, catch rates within the sampling area.

A variety of sizes were observed, but 8"-12" bass were the most numerous. Overall, the proportion of quality size ( $\geq 12''$ ) and preferred size ( $\geq 15''$ ) bass increased compared to values observed in 2017 and were within the target range (40%-70%) for a moderately dense population. A small % of the bass collected during the survey were likely spawned in 2018, however, fish of this size are not fully recruited to the electrofishing gear and abundance can be underestimated. A total of 2,012 bass fingerlings (3"-4" mean total length) were stocked in the fall of 2018 to supplement natural reproduction.

Relative weights (measure of condition based on expected weight at length) improved from 2017, however, it was highly variable between size groups. Approximately 9% of the bass collected during the survey weighed  $\geq 3$  lbs (these were bass in the 20"-22" size range). Size groups with the most bass (8"-12") had mean relative weights below target values indicating possible density dependent competition for resources or issues with feeding efficiency. Due to the hydrology of the Broadkill River, this bass population is also subject to a greater estuarine influence, as evidenced by Striped Bass observed throughout the sampling area. Interspecies competition as well as predation likely impacts this population, but annual variation of these factors is not known.

In June of 2019, 30 bass ( $\geq 12''$ ) were surgically implanted with acoustic transmitters to enable the tracking of their distribution and seasonal movements within this river system. Ten receivers that detect and record the acoustic signal from each individual bass were installed on docks, pilings, and deadfalls from the boat ramp in Milton to the Route 1 overpass. Manual tracking is being conducted twice per month. The hope is that data collected from this effort will shed light on the dynamics of this bass population, identify potential spawning areas, and enable the Division to determine factors that may be influencing the variations in abundance detected during standard electrofishing surveys.

## Fish Habitat Improvement

Brush piles and pallet/tree structures were added to five ponds in February and March of 2019. The trees were donated by Spence's Tree Farm and from a DNREC Christmas tree drop-off site. Data from fish community electrofishing surveys was used to determine the need to enhance habitat to improve foraging efficiency, predatory-prey balance, or increase angling. Also, ponds that lacked deep water habitat (i.e. had limited density of submersed aquatic vegetation, no stumps or woody debris) were targeted for habitat enhancement. The structures were placed in water 5-8 feet deep. Additional ponds will be targeted in 2020.



Example of Brush Pile and Pallet/Tree Structures

Name of Water Body	Structure Type	Water Depth	Approximate Latitude (N)	Approximate Longitude (W)
Andrews Lake	Pallet/Tree	7.1	39.02458	-75.5095
	Pallet/Tree	7.1	39.02441	-75.511
	Brush Pile	6.6	39.0241	-75.51341
Derby Pond	Pallet/Tree	6.2	39.08625	-75.559283
	Brush Pile	5.6	39.084627	-75.560887
	Brush Pile	-	39.085934	-75.562182
Haven Lake	Pallet/Tree	6.4	38.91198	-75.44987
	Brush Pile	5.2	38.90976	-75.45395
	Brush Pile	6.3	38.91156	-75.45152
	Brush Pile	7.1	38.91243	-75.44829
	Brush Pile	7.2	38.91242	-75.44535
Ingrams Pond	Brush Pile	8.2	38.58818	-75.32745
	Brush Pile	8.2	38.58744	-75.3275
	Brush Pile	7.9	38.58781	-75.32855
	Brush Pile	8.1	38.58844	-75.32957
McGinnis Pond	Pallet/Tree	8.3	39.03658	-75.51279
	Pallet/Tree	-	39.03715	-75.51142
	Brush Pile	7.8	39.03406	-75.51588
	Brush Pile	-	39.03532	-75.5146

## 2018 Tournament Activity

Reports were only submitted for 75% of the tournaments that were scheduled/permitted to occur in 2018, thus angler catch and effort is underestimated. Based on the reports that were received, tournament activity decreased from 2017 and was below the long-term average with a combined non-tidal and tidal water total of 58 events and 8,200.5 angler hours. In 2018, the Nanticoke River system was the most popular location for bass tournaments with 19 events and 2,561.5 angling hours reported. It has been the most popular tournament site annually since the tournament reporting program was initiated in 1989. Haven Lake, Records Pond, Killens Pond and Lums Pond were the most popular non-tidal sites during 2018 according to the number of angler hours. Mean weight (lbs) of Largemouth Bass weighed-in during tournaments was calculated by location and season. Mean weights (for non-tidal water bodies with two or more tournament events) was highest at Records Pond (2.72 lbs) and the largest tournament-caught bass was from Trap Pond (5.60 lbs). Mean weight was highest during the spring (March-May) in non-tidal waters (2.26 lbs) and during the summer (June-August) in tidal waters (2.11 lbs). Reported immediate mortality of tournament caught bass was low overall (1.0 %), however, mortality data was not provided in all of the tournament reports. Reported mortality was highest during the spring and summer for tournaments held in non-tidal waters (1.3%) and during the summer for tidal waters (0.50%). Data collected from the 2018 tournament fishing season was useful for identifying areas that received the most fishing pressure, demonstrating the value of healthy bass populations to resource managers, and highlighting the need for continued active management of Delaware's ponds and tidal freshwater areas.

## A BIG 'Thank You' to local bass groups

The Division of Fish and Wildlife recognizes the good stewardship of Chester County Bass Masters, Delaware B.A.S.S. Nation, and Tidal Patterns Bass Club for providing tournament caught Largemouth Bass to the Division for use as brood stock in 2018 and 2019. This collaborative effort ensures that adequate brood stock is available to support the production of fingerling bass at the DSU aquaculture facility. Over 10,000 fingerlings were stocked into the Nanticoke and Broadkill River systems in 2018.



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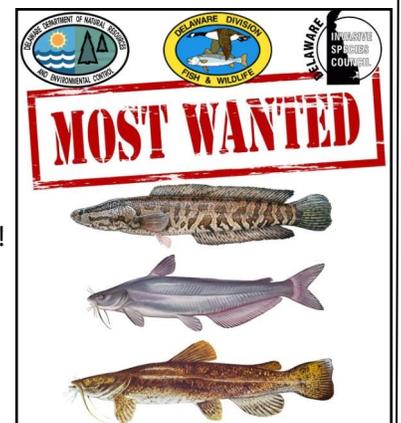
## Nanticoke River Largemouth Bass

The Nanticoke River bass population is surveyed every two years. Results from a 10 day electrofishing survey conducted by the Division of Fish and Wildlife in 2018 revealed a decline in abundance relative to the 2016 survey. Although environmental factors, such as rainfall amounts and water quality may influence bass distribution year to year, the catch index was the lowest since 1989 in all segments of the river. Biologist with the Maryland Department of Natural Resources indicated a similar trend in the Marshyhope River. Anecdotal information and catch data from tournament anglers indicated that the population provided adequate catchable size bass, however, a decline in the viability of the fishery may occur within the sampling area if population trends continue. Stocking advanced size bass fingerlings may not be enough to mitigate the perceived decline in this population. Multiple factors may be contributing to the downward trend in abundance including water quality, habitat alteration from shoreline development, invasive fish species, and fishing pressure. Complete analysis of 12 months of telemetry data is not yet complete, but preliminary results suggest that the Nanticoke River Marina and Broad Creek are particularly important to this population. A portion of tagged bass migrated to and from Maryland waters suggesting collaborative management would be beneficial. Habitat improvement, especially in spawning areas and in areas with limited natural structure, is also needed.

## Invasive Fish Map Tool and Mobile App

Anglers can now report encounters with invasive fish, such as Northern Snakehead, Blue Catfish, and Flathead Catfish, right from their phones while they are out fishing! The site also includes an interactive map that aids with reporting the location of the catch. The Division's new fish 'tracker' tool can be accessed via:

<http://bit.ly/ReportInvasiveFish> or



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