

# Trophy Hybrid Striped Bass in Small Impoundments

By Dave Beasley

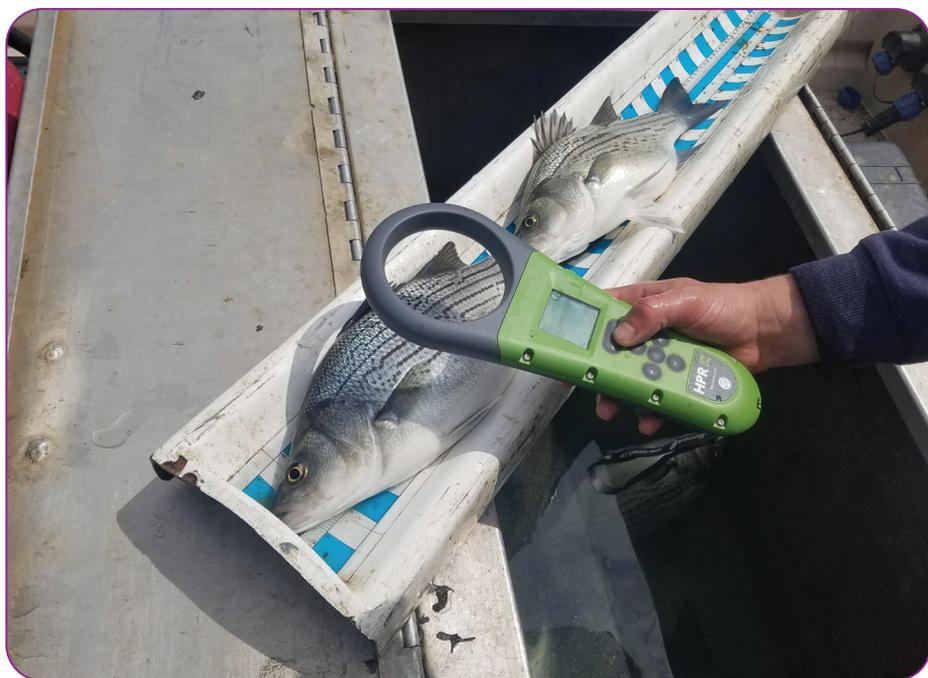
Trophy fishing in ponds is a subject dominated by the adventures and challenges of managers growing Largemouth bass, as well as anglers who try to catch them. The perception of what constitutes *trophy size* typically varies based on the latitude and genetics present in the region—and the experiences and attitudes of the fisherperson chasing that beast. In southern climates where Florida bass live, people have a real chance of catching bass that weigh well into double-digits. Move north to the point where Florida bass are unable to consistently over-winter, Largemouth tend to reach a maximum size of around eight pounds—and even less than that as you continue northward depending on the productivity of that body of water. As a result, the further north you go in the United States, the perception of what constitutes a trophy size Largemouth bass becomes smaller. Managers and anglers should consider an alternative predator species if double-digit fish are desired.

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Few fish species can reach large sizes while also competing in the same environment with Largemouth bass. When it comes to angler satisfaction and sufficient catch rates, of all the fish available, hybrid striped bass may be the best alternative available for pond owners looking to grow double-digit fish in areas where Florida Largemouth are unable to thrive.



*Collecting PIT tag data from 1.5-year-old hybrid striped bass.*

Hybrid stripers are a cross between a female striped bass and a male white bass. They are known to thrive in larger systems with cool water and prefer to feed on open-water bait-fish species. Although their parent striped bass prefer clear water, hybrids are more tolerant of pond conditions thanks to their father's (white bass) tolerance for more turbid conditions. Hybrid stripers, also known as wipers or palmetto bass, can grow greater than 15 pounds in small impoundments if provided with the proper habitat and forage. Like most hybrid species, they must be restocked over the years to maintain their population.

This exact scenario has been unfolding for the past three years in a one-acre pond in Virginia. In the fall of 2016, the pond owner, an avid out-

doorsman, reached-out seeking management advice in his quest to produce trophy Largemouth bass in his pond. His goal was challenging for many reasons. Two of the largest challenges would be maintaining enough forage to grow the desired trophy bass and maintaining a trophy bass population to sustain sufficient angler catch rates. However, he was willing to take the steps needed to overcome most challenges standing between his pond's current condition and his long-term goal.

The initial step in his journey was to collect data on the existing fishery and develop a strategic management plan. The data collection process entailed electrofishing, testing water quality, and mapping the waterbody to understand its contours. The data revealed a stunted

## Table 1 – Summary statistics of length and weight for Hybrid Striped Bass

Sample Date	Number Collected	Average Length (in)	Minimum Length (in)	Maximum Length (in)	Growth in Length (in)	Average Weight (lbs)	Minimum Weight (lbs)	Maximum Weight (lbs)	Growth in Weight (lbs)
April 2017 (stocked)	50	10.2	7.9	11.4	N/A	0.4	0.2	0.6	N/A
Fall 2017	6	16.7	15.8	17.3	6.5	2.7	2.3	3.1	2.3
Spring 2018	28	17.3	16.1	18.7	0.6	3	2.2	4.2	0.3
Fall 2018	19	19.9	18.5	21.7	2.6	4.1	3.1	5.1	1.1
Spring 2019	21	19.9	18.7	21.7	0	4.7	3.7	6.9	0.6
Fall 2019	20	21.3	19.9	23.5	1.4	5.5	4.1	7.3	0.8

Largemouth bass population with no fish collected over 13 inches in length. The average Largemouth bass relative weight (Wr) was 80, which is well below the goal of greater than 110 we set for trophy fisheries. Bluegill were the only forage species collected. Their population was depleted as a result of the pond's poor productivity coupled with heavy bass predation.

Although the fishery was in bad shape, water quality was perfect for building a trophy fishery. The pond is spring-fed with year-round flow, which flushes excess nutrients and provides continuous clean water while maintaining the water level at full pool. The spring typically flows at 30 gallons per minute, not counting runoff from the watershed following rain events. The watershed is clean and contributes little to the waterbody's nutrient load. The total in-water phosphorus levels were only 20 parts per billion (ppb), which is well below levels normally found in small farm ponds. The alkalinity was 84 parts per million (ppm) and the hardness was 151 ppm. Overall, it would have been difficult for this owner to find a pond with water better suited to meet his goals.

Although the owner's eyes were set on growing trophy Largemouth, we were able to convince him we should put equal effort towards growing hybrid striped bass. That's a way to both diversify the fishery and provide improved odds of catching trophy fish that weigh greater than 10 pounds.

Rotenone was applied in the fall of 2016 to

reset the pond, removing the existing stunted bass and helping to ensure the pond would transform into a thriving fishery. Once reset, bluegill, redear sunfish, fathead minnows, and golden shiners were stocked. Next, we installed an automatic fish feeder and placed artificial fish cover to encourage predator fish congregation in angling areas. Finally, we introduced a bottom diffused aeration system and a volcano aerator to help maintain sufficient oxygen levels.

The following spring, we introduced native beneficial vegetation around the perimeter to help diversify habitat and deter geese. We also stocked 50 female Largemouth bass averaging 1.2 pounds and 12.7 inches in length and 50 hybrid striped bass averaging 0.4 pounds and 10.2 inches. Each of the predators was tagged with a PIT (Passive Integrated Transponder) tag to help track growth rates and better understand mortality rates. Though most ponds are typically stocked with 25-50 predator fish per acre, we chose to stock 100 per acre for a couple of reasons. First, it would help us better achieve our goal of establishing high catch rates. Second, by stocking more predators, it would improve the odds of introducing some predators with better than average genetics.

Since all 100 of the stocked predator fish were either female or sterile, the predator population will deplete over the years. Restocking will be necessary over time to sustain catch rates and establish future year classes of trophy caliber fish.

This level of control over the predator population makes it easier to grow trophy size predator fish in a small impoundment.

With the fishery transforming, an adaptive management strategy was deployed to assess how the fishery was progressing, allowing management to adapt to the needs of the fishery based on the data collected. To do this, the fishery was sampled using an electrofishing boat each spring and fall. Forage fish were also stocked routinely every spring and fall to provide the needed calories and nutrition required to grow the predator population.

As seen in tables 1 and 2, the data collected over the past five sampling events allows comparisons to be made between the growth realized by the Largemouth bass and the hybrid striped bass. Although the sample set is only from one pond and is too small to be conclusive, it does a great job illustrating the trajectory that both predator species are on, and supports the concept that hybrid striped bass are capable of providing trophy fishing opportunities in small impoundments.

Over the 2.5 years the predators were in the pond, Largemouth bass grew an average of 2.4 pounds and 4.7 inches, reaching an average length of 17.4 inches and an average weight of 3.6 pounds, with their maximum length recorded being 18.5 inches and maximum weight of 4.3 pounds. During that same time period, the hybrid striped bass grew an average of 5.1

## Table 2 – Summary statistics of length and weight for Largemouth Bass

Sample Date	Number Collected	Average Length (in)	Minimum Length (in)	Maximum Length (in)	Growth in Length (in)	Average Weight (lbs)	Minimum Weight (lbs)	Maximum Weight (lbs)	Growth in Weight (lbs)
April 2017 (stocked)	50	12.7	10.6	14.2	N/A	1.2	0.7	1.7	N/A
Fall 2017	21	14.7	12.2	16.2	2	2	1.1	2.7	0.8
Spring 2018	12	15.7	14.6	16.4	1	2.7	2	3.1	0.7
Fall 2018	14	16.5	14.4	17.8	0.8	2.9	1.6	3.5	0.2
Spring 2019	29	16.1	14.2	17.6	-0.4	3.3	1.6	4.3	0.4
Fall 2019	15	17.4	15.2	18.5	1.3	3.6	2.6	4.1	0.3

pounds and 11.1 inches, reaching an average length of 21.3 inches and average weight of 5.5 pounds, with the maximum length recorded being 23.5 inches and the maximum weight of 7.3 pounds. The hybrid striped bass have grown far faster than the Largemouth bass when living alongside one another.

Given the predators are relatively young, both species still have a great deal of opportunity to grow. Although the pond owner will always have a passion for catching Largemouth bass, his pond's geography and characteristics

play into the strengths of hybrid striped bass genetics. As the data illustrates, hybrid stripers are providing him with a realistic opportunity to produce many double-digit fish in a one-acre pond. If hybrid striped bass are able to gain an average of 1-1.5 pounds of growth annually over the next 3-4 years, it is likely this pond owner will start to develop a passion for hybrid striped bass, similar to the one he had for Largemouth bass when he approached us three years ago.



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