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Gardy's Millpond 2019 Fisheries Management Report Virginia Department of Game and Inland Fisheries

Gardy's Millpond is a 75-acre impoundment located along the Westmoreland and Northumberland county line. The pond is privately owned, but the Department of Game and Inland Fisheries has an agreement to allow public fishing. The pond is located off of State Route 617 off of Route 202, about 3 miles northwest of Callao, VA. The pond is rather shallow with an average depth of about 5 feet. The shoreline has decent habitat in the form of fallen trees and patches of lily pads. The boat ramp and courtesy pier are open to fishing 24 hours a day, seven days a week. Some limited bank fishing sites are present along the edge of the parking lot. No gasoline motors are allowed, but anglers are able to use electric trolling motors. Fishing this pond should be a nice alternative to fishing some of the bigger waters.

The Virginia Department of Game and Inland Fisheries sampled Gardy's Millpond on May 24th, 2018. This survey was conducted much later into the spring than past surveys. The previous survey was conducted on May 4th, 2016. A full community sample was conducted to observe the present fishery. The electrofishing effort of 2,400 seconds (0.66 hour) was used to sample two shoreline sections. A total of 10 fish species were collected. This report will concentrate primarily upon the largemouth bass, bluegill, black crappie, and redear sunfish that were collected.

Table 1. Summary of the primary fish species collected by electrofishing of Gardy's Millpond, May 24th, 2018

Species	# Collected	CPUE (fish/hr)	Max Length (")	Mean Length (")
Largemouth Bass	49	73.5	22.64	12.68
Bluegill	379	568.5	8.19	4.09
Black Crappie	14	21	9.96	6.69
Redear Sunfish	43	64.5	9.53	6.32

Largemouth Bass

The largemouth bass fishery appears to be in decent shape. The survey collected a total of 49 largemouth bass for a CPUE (Catch Per Unit of Effort) of 73.5 fish/hr. This catch rate showed a slight decline when compared to the 2016 survey (CPUE = 77 fish/hr); and fell below the historic mean of 84 fish/hr (survey years 1996-2016). The survey showed a respectable CPUE of preferred-sized fish (28.5 fish/hr) even though there was a

decline from 2016 (CPUE-P = 35 fish/hr). The largest bass measured 22.64 inches with a weight of 5.99 pounds. The average length of collected bass was 12.68 inches, which showed a decline from 2016 (Mean TL = 13.9 inches).

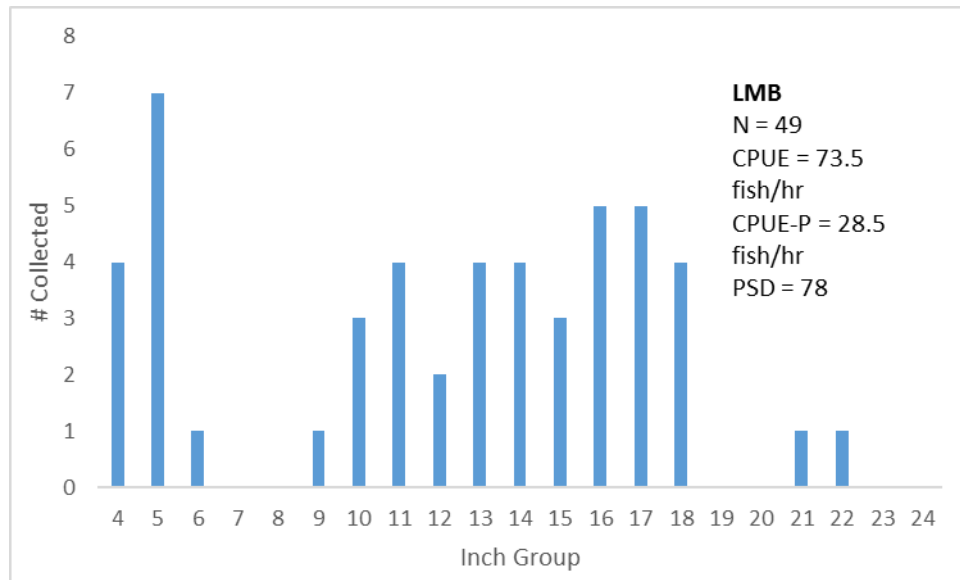


Figure 1. Length frequency of largemouth bass collected from electrofishing of Gardy's Millpond on May 24th, 2018

Fisheries biologists of the past established certain size classifications to describe the fish they collected. It is through these size classifications that population dynamics are analyzed. The size designations are stock, quality, preferred, memorable, and trophy. The PSD (Proportional Stock Density) is the proportion of bass in the population over 8 inches (stock size) that are also at least 12 inches (quality size). A balanced bass/bluegill fishery has a bass PSD value within the 40–60 range. With largemouth bass being the most popular game fish in this country, it has been considered that a “preferred” bass is one that is over 15 inches in length. The RSD-P (Relative Stock Density of Preferred bass) is the proportion of bass in the population over 8 inches that are also at least 15 inches. The PSD and RSD-P values represent the distribution of collected fish, but one must take into account the total number of bass collected along with the total of stock-sized bass in the sample.

The 2018 sample yielded a PSD value of 78, which was greater than the 2016 PSD value of 83. The PSD value of 78 is a direct reflection of the 29 quality-sized bass from the total number of 37 stock-sized fish. This PSD value is above the desired range of 40-60 that would represent a balanced bass/bluegill fishery. Based on the latest survey, the bass population is supported by an abundance of larger sized fish. The 2018 RSD-P value of 51 represents the collection of 19 preferred-size bass. This RSD-P value was slightly less than the 2016 value of 54.

Weights were taken on largemouth bass to calculate relative weight values. Relative weight values are an indication of body condition. A value from 95 to 100 represents a fish that is in the healthy range and finding a decent amount of food. A higher relative weight value indicates fish with a better body condition. The relative weight values for stock, quality, preferred and memorable bass ($\geq 8''$, $\geq 12''$, $\geq 15''$, $\geq 20''$) were 91, 90, 91 and 92 respectively. These values showed a decline from the 2016 survey (stock = 95, quality = 94, preferred = 95, memorable = 98). The decline in bass relative weight may be a reflection of declines in the forage base due to competition with the black crappie population as well as the bass population found in a post-spawn condition.

Bluegill and Redear Sunfish

The survey collected 379 bluegill for a CPUE of 568.5 fish/hr. This catch rate showed a large decline when compared to 2016 (CPUE = 923 fish/hr). The size distribution ranged from 1 to 8 inches with the majority of the collected fish in the 2 to 4 inch range. The PSD for bluegill is the proportion of stock-size bluegill over 8 cm (3.15") that is also a quality size of at least 15 cm (5.9"). The bluegill PSD value of 16 falls below the desired PSD range (20 to 40) that would represent a balanced fishery. The PSD value matched the 2016 survey (PSD = 16). The collection consisted of 44 quality-sized bluegill greater than 5.9 inches in total length. A total of 273 stock-sized bluegill were collected.

The survey revealed a high proportion of bluegill in the 2-4 inch range with a noticeable decline in abundance of bluegill greater than 5 inches in total length. The average total length of collected bluegill was 4.09 inches, which was slightly below the 2016 mean length of 4.15 inches. The largest collected bluegill measured 8.19 inches. Anglers that target the bluegill population may be pleasantly surprised by a few of these preferred-sized fish.

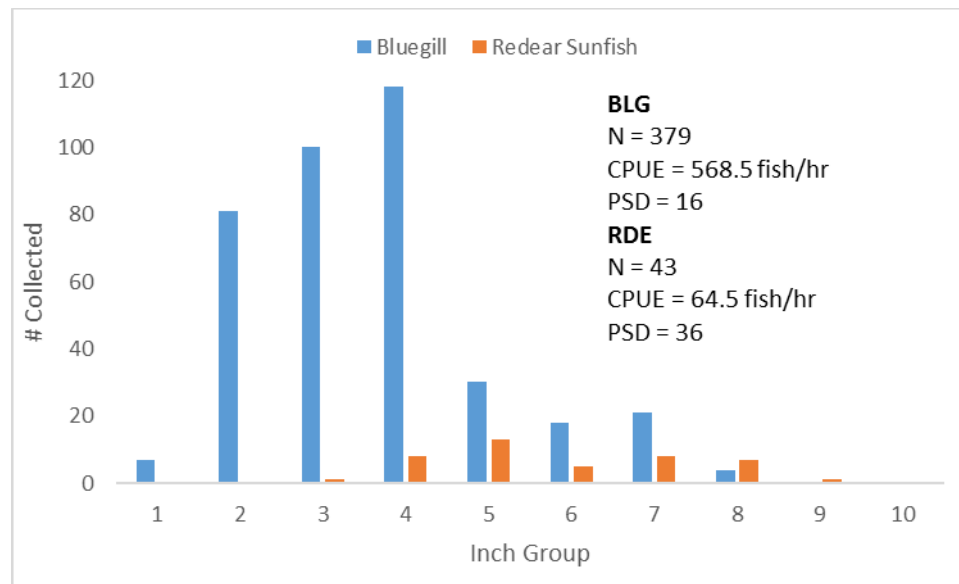


Figure 2. Length frequency distribution of bluegill and redear sunfish collected from the electrofishing survey of Gardy's Millpond on May 24th, 2018

The survey collected a total of 43 redear sunfish (CPUE = 64.5 fish/hr), which showed a decline from the 2016 survey (CPUE = 82 fish/hr). The redear sunfish length distribution ranged from 3 to 9 inches with the majority of fish in the 5 to 7 inch range. The average size redear sunfish measured 6.32 inches, which showed a slight increase from 2016 (mean total length = 6.03 inches). The largest redear sunfish measured 9.53 inches. The survey revealed poor recruitment of juvenile fish with only one redear sunfish less than 4 inches in length. Past surveys have historically revealed poor recruitment of juvenile fish. Gardy's Millpond continues to produce quality redear sunfish in the 7 to 9 inch range. Anglers usually do rather well during the middle of May when the redear sunfish are tight to the banks during the spawning season. Anglers are encouraged to practice as much catch and release as possible as it relates to the larger sunfish in Gardy's Millpond.

Black Crappie

The survey collected an extremely limited sample set of 14 black crappie for a CPUE of 21 fish/hr. This catch rate showed an extreme decline when compared to 2016 (CPUE = 180 fish/hr). The collected crappie ranged in size from 3 to 9 inches, with the majority of the distribution appearing to be from two year classes of recruitment. A high proportion of the crappie were in the 5 to 6 inch range. The other distribution peak was centered on the 7 to 8 inch range. Past electrofishing efforts on Gardy's Millpond have yielded limited numbers of black crappie. Electrofishing for crappie tends to be hit or miss, depending on the location of schooling fish. The 2016 survey revealed the highest catch rate of black crappie. The average catch rate of black crappie from years 1996 to 2016 has been 43 fish/hr.

The crappie were weighed to evaluate their relative weights. The relative weight values for stock, quality and preferred-sized crappie ($\geq 5''$, $\geq 7.9''$ and $\geq 9.8''$) were 88, 80 and 78. These values were well below the desired range of 95-100 and showed some similarity to the 2016 collection (stock = 86, quality = 83, preferred = 73). The forage base of juvenile sunfish and golden shiners is not strong enough to support the current abundance of crappie and largemouth bass. The average length of collected crappie measured 6.69 inches revealing a minor increase from the 2016 mean length of 5.85 inches. The largest black crappie measured a less than impressive 9.96 inches. Gardy's Millpond has some potential for crappie action, but anglers should not expect to catch too many trophy-sized fish. There is the outside chance that a few of the larger crappie might be able to seize the moment and start foraging on any juvenile gizzard shad that are produced.

Additional Species

The electrofishing survey collected 10 fish species. Species collected in low abundance were: Bowfin (N = 3), common carp (N = 1), chain pickerel (N = 2),

American eel (N = 1), gizzard shad (N = 23), and warmouth sunfish (N = 5). The collected bowfin ranged in size from 23 to 26 inches. The one collected carp measured an impressive 31.2 inches. The two chain pickerel measured in at 2 and 17 inches. The lone American eel measured 9 inches. The collected warmouth sunfish ranged in size from 3.3 to 6.5 inches. Collected shad ranged in size from 9 to 16.5 inches with the majority of the fish in the 14 to 16 inch range. These large gizzard shad will provide some additional forage in the way of naturally produced young of year, but their presence is less than ideal when you look at the massive amount of zooplankton these shad consume. These species will offer some diversity and the chance to surprise an angler from time to time.

Summary

The 2018 electrofishing survey of Gardy's Millpond revealed a fair to decent abundance of largemouth bass even though the catch rate of bass (CPUE = 73.5 fish/hr) showed a slight decline when compared to the 2016 survey (CPUE = 77 fish/hr). The catch rate of preferred-sized bass (28.5 fish/hr) was still respectable and showed a decline from 2016 (CPUE-P = 35 fish/hr). The bass fishery receives some pressure from anglers over the course of the year, but the overall pressure would be categorized as moderate. Anglers might be pleasantly surprised by a few of the larger bass that are present. The largest collected bass was just shy of 6 pounds. The bluegill fishery consists primarily of juvenile fish in the 2 to 4 inch range. The pond has some potential to grow larger bluegill with a few reaching the 6 to 8-inch range. The redear sunfish population continues to produce some very respectable fish in the 7 to 9 inch range. Redear sunfish recruitment showed some less than impressive abundance of juvenile fish less than 4 inches in length.

The survey revealed a decline in catch rate of black crappie when compared to the 2016 survey. This decline may be associated with the random nature of encountering schools of black crappie after their spawn is complete. The majority of the collected crappie were in the 5 to 7 inch range with the largest fish just shy of 10 inches. There is some potential for the fishery to produce larger crappie, but anglers should not expect to catch many citation-sized fish.

Anglers that fish Gardy's Millpond can expect to have decent action from the largemouth bass population and can usually find some willing biters when the black crappie schools are found. Anglers interested in catching some decent redear sunfish should try Gardy's Millpond during the end of April to mid-May time frame.

Management report was written by Scott Herrmann, DGIF Fisheries Biologist, Region 1, District 1