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Gardy's Millpond 2020 Fisheries Management Report

Virginia Department of Wildlife Resources

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 maintains an agreement to provide 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 dense 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.

The Virginia Department of Game and Inland Fisheries sampled Gardy's Millpond on May 4th, 2020. The previous survey was conducted on May 24th, 2018. 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. The survey yielded the collection of 10 fish species. This report will concentrate primarily upon the largemouth bass, bluegill, black crappie, and redear sunfish.

Table 1. Summary of the primary fish species collected by electrofishing of Gardy's Millpond, May 4th, 2020

Species	# Collected	CPUE (fish/hr)	Max Length (")	Mean Length (")
Largemouth Bass	40	60	19.09	10.75
Bluegill	196	294	8.15	4.31
Black Crappie	71	106	10.28	7.71
Redear Sunfish	46	69	8.94	6.68

Largemouth Bass

The largemouth bass fishery appears to be in fair shape. The survey collected 40 largemouth bass for a CPUE (Catch Per Unit of Effort) of 60 fish/hr. This catch rate showed a decline when compared to the 2018 survey (CPUE = 73.5 fish/hr); and fell below the historic mean of 83 fish/hr (survey years 1996-2018). The CPUE of preferred-sized fish (12 fish/hr) revealed a large decline from 2018 (CPUE-P = 28.5 fish/hr). The decline of larger bass within the system may be a reflection of increased angler harvest and/or the survey missing the majority of larger female bass that may have been in a post-spawn pattern. Collected bass ranged in size from 12 to 48 centimeters (5 to 19 inches). Several distinct year classes are represented on the length frequency distribution in Figure 1. The three largest bass measured in at 18.89", 18.97" and 19.09" with corresponding weights of 3.51, 3.82 and 3.26 pounds. These fish were not nearly as impressive as the

largest bass in 2018 that measured 22.64 inches with a weight of 5.99 pounds. Gardy's Millpond has limited potential to produce bass greater than 6 pounds. The average length of collected bass was 10.75 inches, which showed a heavy decline from 2018 (Mean TL = 12.68 inches).

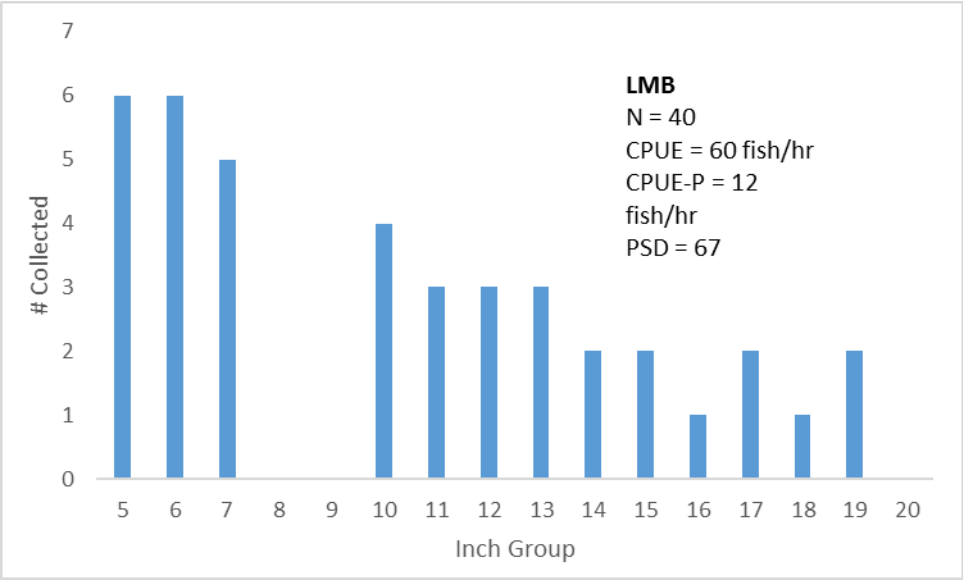

Figure 1. Length frequency of largemouth bass collected from electrofishing of Gardy's Millpond on May 4th, 2020

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 2020 sample yielded a PSD value of 67, which was less than the 2018 survey (PSD = 78). The PSD value of 67 is a direct reflection of the 16 quality-sized bass from the 24 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 a higher proportion of larger sized fish. The limited abundance of bass in the 21 to 31 centimeter range (8.5 to 12.5 inches) is at play. The 2020 RSD-P value of 33 represents the collection of eight preferred-size bass. This RSD-P value showed a large decline from 2018 (RSD-P = 51).

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 (≥8", ≥12", ≥15", ≥20") were 92, 91, and 92 respectively. These values showed a slight increase from the 2018 survey (stock = 91, quality = 90, preferred = 91). The less than ideal relative weight values found in bass 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 196 bluegill for a CPUE of 294 fish/hr. This catch rate showed a large decline when compared to 2018 (CPUE = 568.5 fish/hr). The size distribution ranged from 2 to 8 inches, with the majority of the collected fish in the 3 to 5 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 20 falls just within the desired PSD range (20 to 40) that would represent a balanced fishery. The PSD value showed an increase from the 2018 survey (PSD = 16). The collection consisted of 31 quality-sized bluegill greater than 5.9 inches in total length. A total of 158 stock-sized bluegill were collected.

The survey revealed a high proportion of bluegill in the 3 to 4 inch range with a noticeable decline in abundance of bluegill greater than 6 inches in total length. The average total length of collected bluegill was 4.3 inches, which was slightly higher than 2018 (mean length = 4.09"). The largest collected bluegill measured 8.15 inches. Anglers that target the bluegill population may be pleasantly surprised by a few of these preferred-sized fish.

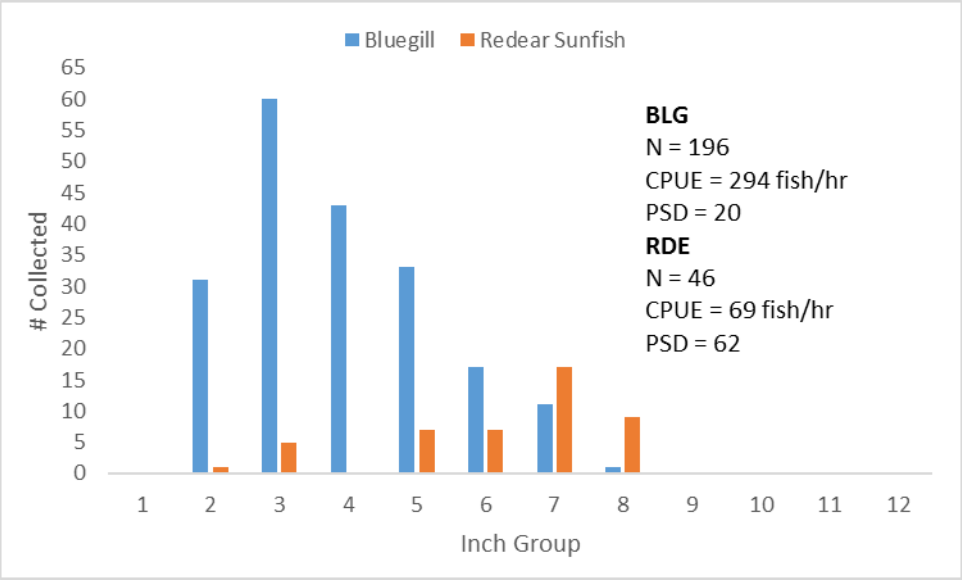

Figure 2. Length frequency distribution of bluegill and redear sunfish collected from the electrofishing survey of Gardy's Millpond on May 4th, 2020

The survey collected 46 redear sunfish (CPUE = 69 fish/hr), which showed an increase from the 2018 survey (CPUE = 64.5 fish/hr). Collected redear sunfish ranged in size from 2.8 to 8.9 inches, with the majority of fish in the 6 to 8 inch range. The average size redear sunfish measured 6.68 inches, which showed a slight increase from 2018 (mean total length = 6.32 inches). The largest redear sunfish measured 227 mm (8.94 inches). The survey revealed poor recruitment of juvenile fish with a limited abundance of redear sunfish less than 5 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 8 inch range even though the abundance of larger fish has declined. 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 increased abundance of black crappie (N = 71: CPUE = 106 fish/hr). The catch rate showed a large increase when compared to 2018 (CPUE = 21 fish/hr). The collected crappie ranged in size from 3.4 to 10.3 inches. A high proportion of the crappie were in the 6 to 8 inch range. The survey revealed a little abundance of crappie greater than 9 inches. 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 average catch rate of black crappie from years 1996 to 2018 is 42 fish/hr, therefore the 2020 survey (CPUE = 106 fish/hr) ranks as one of the highest catch rates on record.

The crappie were weighed to evaluate their relative weights. The relative weight values for stock, quality and preferred-sized crappie (≥5", ≥7.9" and ≥9.8") were 84, 82 and 79. These values were well below the desired range of 95-100 and showed some similarity to the 2018 collection (stock = 88, quality = 80, preferred = 78). 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 7.7 inches, revealing an increase from the 2018 mean length of 6.69 inches. The largest black crappie measured 10.28 inches and weighed 0.52 lb. Gardy's Millpond has some potential for crappie action, but anglers should not expect to catch too many trophy-sized fish.

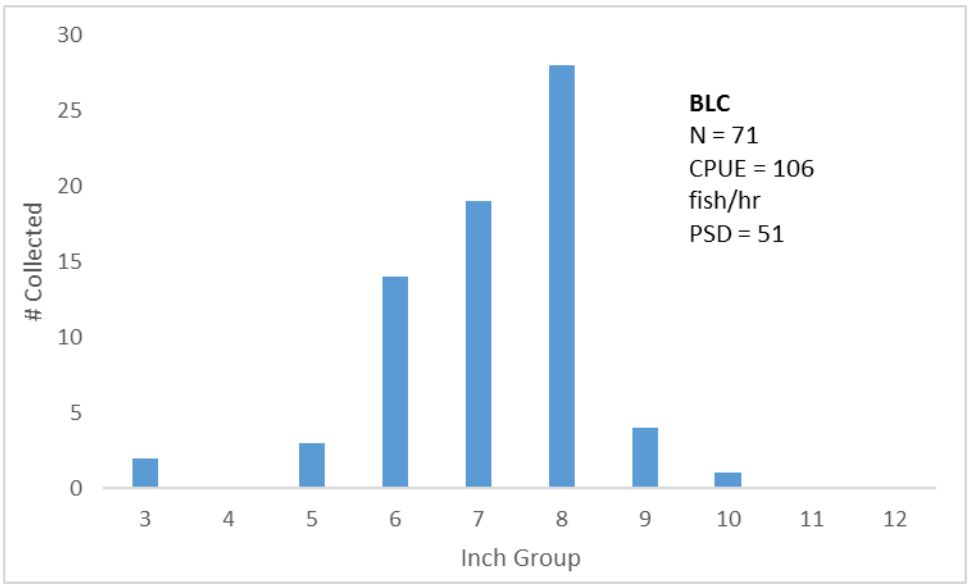

Figure 3. Length frequency distribution of black crappie collected from the electrofishing survey of Gardy's Millpond on May 4th, 2020

Additional Species

The electrofishing survey collected ten fish species. Species collected in low abundance were brown bullhead (N = 1), chain pickerel (N = 2), American eel (N = 1), gizzard shad (N = 10), golden shiner (N = 7), and warmouth sunfish (N = 1). The collected brown bullhead was a healthy specimen that measured 382 mm (15.04") with a weight of 959 g (2.11 lbs). The two chain pickerel measured in at 17.44 and 21.85 inches. The lone American eel measured 9.6 inches. Collected gizzard shad ranged in size from 8.3 to 16.1 inches. The collected golden shiners ranged in size from 5.98 to 9.33 inches. The collected warmouth sunfish measured 3 inches. These species will offer some diversity and the chance to surprise an angler from time to time.

Summary

The 2020 electrofishing survey of Gardy's Millpond revealed a fair abundance of largemouth bass (CPUE = 60 fish/hr) and a marked decline when compared to the 2018 survey (CPUE = 73.5 fish/hr). The catch rate of preferred-sized bass (12 fish/hr) was the most noticeable area of decline from 2018 (CPUE-P = 28.5 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. Otters have been a problem in the past and the full extent their presence has had on the bass population is hard to measure. Anglers might be pleasantly surprised by a few of the larger bass that are present even though the survey failed at putting a 4 pound bass in the boat. The largest collected bass in 2018 was just shy of 6 pounds, so maybe that female bass is still out there foraging on large gizzard shad. The bluegill fishery consists primarily of medium-sized fish in the 3 to 5-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 8 inch range. Redear sunfish recruitment showed some less than impressive abundance of juvenile fish less than 5 inches in length.

The survey revealed a large increase in catch rate of black crappie when compared to the 2018 survey. The majority of the collected crappie were in the 7 to 9 inch range with the largest fish measured at 10.28 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 encountered. Anglers interested in catching some decent redear sunfish should try Gardy's Millpond during the end of April to mid-May time frame.

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