



## Gardy's Millpond 2015 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. 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 April 21<sup>st</sup>, 2014. The previous survey was conducted on April 25<sup>th</sup>, 2012. 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, April 21<sup>st</sup>, 2014.

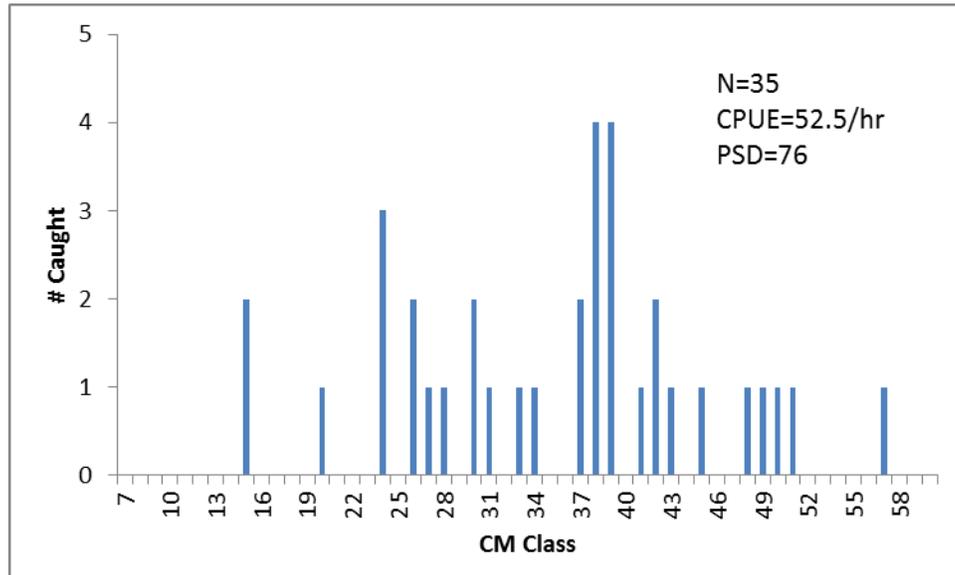
| Species         | # Collected | CPUE (fish/hr) | Largest Length | Average Length |
|-----------------|-------------|----------------|----------------|----------------|
| Largemouth Bass | 35          | 52.5           | 22.09"         | 14.07"         |
| Bluegill        | 321         | 481.5          | 8.3"           | 4.19"          |
| Black Crappie   | 51          | 76.5           | 11.06"         | 8.15"          |
| Redear Sunfish  | 54          | 81             | 9.49"          | 6.23"          |

### Largemouth Bass

The largemouth bass fishery appears to be in fair shape even though the overall abundance of fish took a drop in 2014. The survey collected 35 bass for a CPUE (Catch Per Unit of Effort) of 52.5 fish/hr. This catch rate showed a decline from 2012 (CPUE = 88.5 fish/hr). The mean CPUE for survey years 1996 to 2012 is 87.3 bass/hr. The size distribution of the collected bass is represented in the attached histogram. The survey showed a decline in the number of preferred-size bass ( $\geq 15''$ ) with 18 fish collected, which was down from the impressive total of 2012 (N = 27). The largest bass measured 22.1 inches and weighed 6.4 pounds. The average size collected bass was a favorable 14.07 inches and showed an increase from 2012 (Mean TL = 12.96 inches). The decline of larger bass in the system may be due to the presence of otters. Three otters were

observed during the survey. One of those otters came to the boat and attacked a bass that was about 3 pounds in weight. Otters can have a severe impact on the larger bass in a smaller impoundment.

Figure 1. Length frequency of largemouth bass collected from electrofishing of Gardy's Millpond on April 25, 2012. (N = 35; CPUE = 52.5 fish/hr)



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 2014 sample yielded a PSD value of 76, which is a direct reflection of the 25 quality-sized bass. The sample had a total of 33 bass that were stock size or larger. This PSD value is above the desired range of 40-60 that would represent a balanced bass/bluegill fishery. The 2014 PSD value was the exact same as the 2012 survey. The 2014 RSD-P value of 55 represents the collection of 18 preferred-size bass. This RSD-P value was the same as the 2012 value.

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 ( $\geq 8''$ ,  $\geq 12''$ ,  $\geq 15''$ ,  $\geq 20''$ )

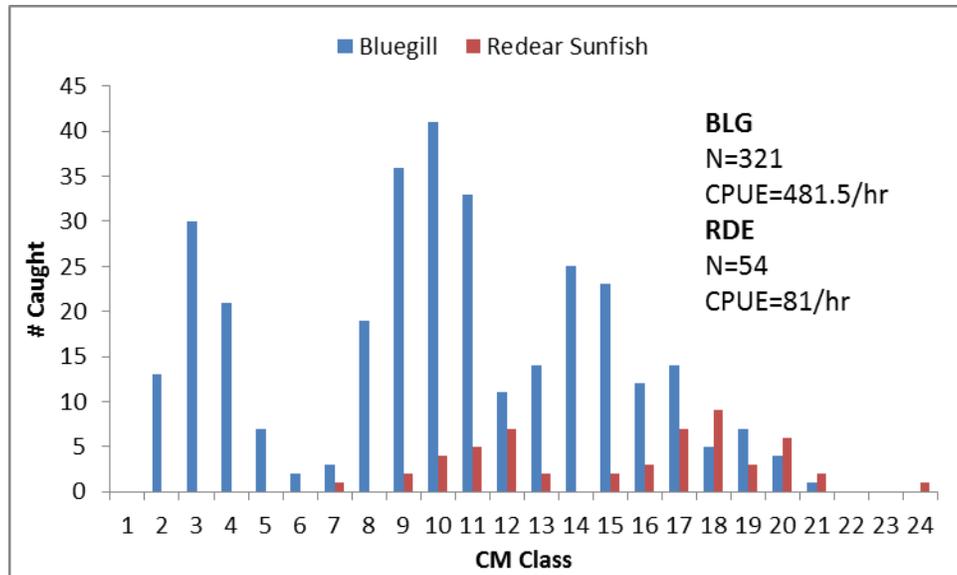
were 96, 98, 99 and 104 respectfully. These values showed a favorable increase from the 2012 survey (stock = 92, quality = 92, preferred = 93, memorable = 98). The increase in bass relative weight may be a reflection of the decline in bass abundance or the fact that more forage fish are available to consume.

### Bluegill and Redear Sunfish

The survey collected 321 bluegill for a CPUE of 481.5 fish/hr. This catch rate showed an increase from 2012 (CPUE = 361.5 fish/hr). The size distribution ranged from 2 to 21 centimeters which is equivalent to juvenile-sized bluegill of an inch in length up to the preferred-size of 8+ inches. 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 27 falls within the desired PSD range (20 to 40) that would represent a balanced fishery. The collection consisted of 66 quality-sized bluegill greater than 5.9 inches in total length. A total of 245 stock-sized bluegill were collected. The 2014 bluegill PSD value showed a favorable increase from 2012 (PSD = 19).

The survey revealed an abundance of bluegill in the 3-5 inch range and a decent abundance of 1-2 inch bluegill. The average total length of collected bluegill was 4.19 inches. This length showed a decline when compared to the 2012 survey (mean TL: 4.74 inches). The electrofishing survey was conducted about a week or so before the majority of larger bluegill spawn along the shallows. A survey conducted during mid-May would most likely have shown a larger assemblage of bluegill in the 6 to 8 inch range. DGIF staff tries their best to not conduct spring electrofishing surveys during the middle of the sunfish spawning season as a way of trying to protect the developing year class of bluegill fry. The largest collected bluegill measured 8.3 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 Gardy’s Millpond, April 21<sup>st</sup>, 2014.



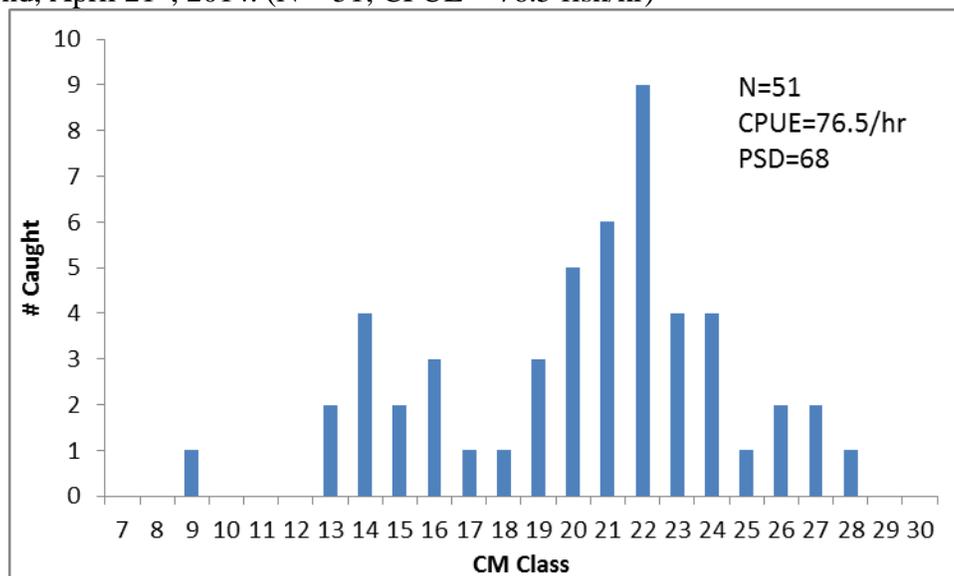
The survey collected a total of 54 redear sunfish (CPUE = 81 fish/hr), which showed a slight decline to 2012 (CPUE = 84 fish/hr). The redear sunfish length distribution ranged from 7-24 centimeters (3 to 9 inches). The average size redear sunfish measured 6.23 inches which was below the 2012 average length of 6.74 inches. The largest redear sunfish measured 9.49 inches. A collection was similar to past surveys in revealing relatively 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 51 black crappie for a CPUE of 76.5 fish/hr. This catch rate showed an increase from 2012 (CPUE = 55.5 fish/hr). The collected crappie ranged in size from 9-28 centimeters (3.5 to 11 inches). A high proportion of the crappie were in the 8 to 9.5 inch size 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 survey showed several year classes of fish making their way through the fishery. Juvenile black crappie abundance was relatively light, but still better than other waters sampled in 2014.

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 90, 89 and 83. These values were still below the desired range of 95-100, but showed an improvement from 2012 (stock = 84, quality = 81, preferred = 80). The increased abundance of juvenile sunfish may have allowed for the favorable increase in the crappie relative weight values. The average length of collected crappie measured 8.15 inches, which showed a slight decline from 2012 (mean TL = 8.34"). Gardy's Millpond has some potential for crappie action, but don't expect to catch too many trophy-sized fish.

Figure 3. Length frequency distribution of black crappie collected from Gardy's Millpond, April 21<sup>st</sup>, 2014. (N = 51; CPUE = 76.5 fish/hr)



### **Additional Species**

The remaining species collected in low abundance were: American eel (N = 7), yellow perch (N = 12), chain pickerel (N = 2), gizzard shad (N = 43), golden shiner (N = 5) and warmouth sunfish (N = 4). The gizzard shad collection of 43 fish showed a major increase when compared to the shad collected in 2012. Collected shad ranged in size from 6 to 17 inches with the majority of the fish in the 6 to 8 inch range. These 6 to 8 inch shad will provide a great forage base for the adult bass that are present. These species offer some diversity and the chance to surprise an angler from time to time.

### **Summary**

The 2014 electrofishing sample of Gardy's Millpond revealed a fair abundance of largemouth bass. The catch rate of bass (CPUE = 52.5 fish/hr) showed a sizeable decline when compared to the 2012 survey (CPUE = 85.5 fish/hr). The catch rate of preferred bass (40.5 fish/hr) in 2012 took a drop to 27 fish/hr in 2014. The total harvest of bass from the fishery by anglers and otters is not known at this time. The bluegill fishery consists primarily of medium-sized fish in the 4 to 6 inch range. The pond has some potential to grow larger bluegill with a few reaching the 7 to 8-inch range. The redear sunfish population continues to produce some very respectable fish in the 7 to 9 inch range. Limited recruitment of redear sunfish was observed once again.

The survey revealed an increased catch rate of black crappie (CPUE = 76.5 fish/hr) when compared to the 2012 survey (CPUE = 55.5 fish/hr). The majority of the collected crappie were within the 8-9 inch range with the largest crappie measured at 11.06 inches.

Anglers that fish Gardy's Millpond can expect to have decent action from the largemouth bass and black crappie populations along with a decent chance to catch some quality redear sunfish. Anglers interested in catching some decent redear sunfish should try Gardy's Millpond during the end of April to mid-May time frame.