



Chandler's Millpond 2015 Fisheries Management Report

Virginia Department of Game and Inland Fisheries

Chandler's Millpond is a picturesque 75-acre impoundment located in Westmoreland County in the "Northern Neck" of Virginia. The Sturman family originally built the millpond around 1670 on Cat Point Creek. Several individuals privately own the pond, but the Department of Game and Inland Fisheries has an agreement with them to allow public fishing. The dam was breached in September 1993 during a large storm event, which deposited up to 16" of rain in some parts of the watershed. During the winter of 1994-1995, the dam was rebuilt and a Denil fish ladder was added to accommodate potential spawning runs of river herring that historically ascended the stream. The pond was restocked with bluegill, largemouth bass, redear sunfish and channel catfish and was closed to fishing to allow these fish to establish a self-sustaining population. The pond was re-opened to public fishing on July 1, 1998. The pond is located off of Route 3, approximately one mile west of Montross. The pond has an average depth of about 6 feet. The shoreline has abundant 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. There is currently a 12 to 15 inch slot limit with a creel limit of 5 bass per day. No bass between 12 and 15 inches in length can be harvested or in possession. Anglers can harvest up to the creel limit of 5 bass per day as long as the bass are less than 12 inches or greater than 15 inches.

The Virginia Department of Game and Inland Fisheries sampled Chandler's Millpond on April 21st, 2014. The electrofishing effort of 2,400 seconds (0.66 hour) was used to attain a representative sample of the present fishery. Four 10-minute sample runs were conducted along the same shorelines as past surveys. The first two survey runs were conducted within the eastern creek arm. The third and fourth survey runs were conducted within the western creek arm. A total of 14 fish species were collected. This report will concentrate primarily upon the largemouth bass, bluegill, black crappie and redear sunfish that were collected.

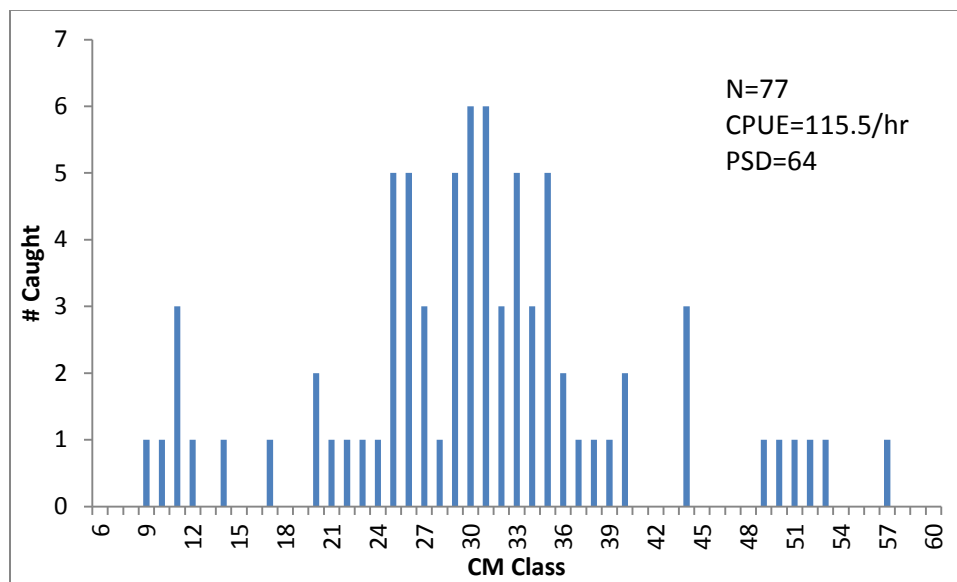
Table 1. Summary of the primary fish species collected by electrofishing of Chandler's Millpond, April 21st, 2014.

Species	# Collected	CPUE #/hr	Largest Length	Average Length
Largemouth Bass	77	115.5	22.44"	12.14"
Bluegill	233	349.5	8.27"	4.88"
Black Crappie	42	63	11.42"	9.13"
Redear Sunfish	49	73.5	8.58"	6.79"

Largemouth Bass

The largemouth bass fishery appears to be in decent shape. The electrofishing sample collected 77 largemouth bass for a CPUE (Catch Per Unit of Effort) of 115.5 fish/hr. This catch rate showed an increase from the 2013 sample (CPUE = 87 fish/hr). The size distribution of collected bass is represented on the histogram below. The collected bass ranged in size from 9-57 centimeters (3-22 inches). The sample consisted of 13 preferred-sized bass that measured 15 inches or greater. The 12 to 15 inch slot limit on largemouth bass appears to have been protecting bass at least on the lower end of the slot. The largest bass measured 22.44 inches and weighed 6.5 pounds. Chandler's Millpond has historically produced some larger bass in the 7 to 8 pound range, but the 2014 survey was unsuccessful in finding any of them. The presence of gizzard shad in the fishery allows the bass population to produce a few trophy bass very once in a while.

Figure 1. Length frequency of largemouth bass collected from electrofishing of Chandler's Millpond, April 21st, 2014. (N = 77; CPUE = 115.5 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 40–70 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 survey revealed a PSD value of 64. This showed an increase from the 2013 survey (PSD = 61). The 2014 PSD value is a direct reflection of the 44 quality-sized bass that were collected. The sample had a total of 69 bass that were stock size or larger. This PSD value is slightly above the desired range of 40–60 that represents a balanced bass fishery. The 2014 RSD-

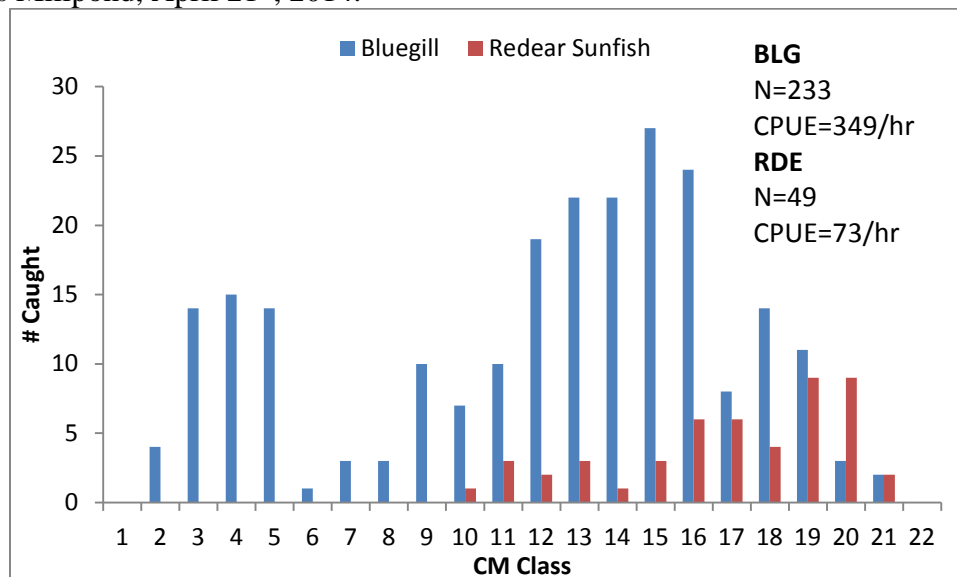
P value of 19 is a direct reflection of the 13 preferred-sized bass collected. This value showed a minor increase when compared to the 2013 survey (RSD-P = 18).

All collected largemouth bass were weighed 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 87, 88, 97 and 95 respectively. These relative weight values showed a serious decline from the 2013 values (stock = 96, quality = 101, preferred = 109, memorable = 109). The low relative weight values reveal that there has either been an increase in the competition for forage or there has been poor recruitment of forage species. The bass population must be monitored on a regular basis to verify whether or not a stock-piling of the bass below the slot is occurring.

Bluegill and Redear Sunfish

The 2014 survey collected 233 bluegill (CPUE = 349.5 fish/hr) which showed an increase from 2013 (CPUE = 333 fish/hr). The bluegill length distribution was 2-21 centimeters (1-8 inches), with the majority of the bluegills in the 12-16 cm range (5-6 inches). The PSD for bluegill is the proportion of stock-size bluegills over 8 cm (3.15") that are also a quality size of at least 15 cm (5.9"). The bluegill PSD value was 49 and falls above the desired 20 to 40 range that would represent a balanced fishery. This PSD value showed an increase from 2013 (PSD = 28). Anglers will be able to have a fair chance at catching decent numbers of bluegills even though the overall size structure of the population shows some limitations on fish greater than 7 inches in total length.

Figure 2. Length frequency of bluegill and redear sunfish collected from electrofishing of Chandler's Millpond, April 21st, 2014.



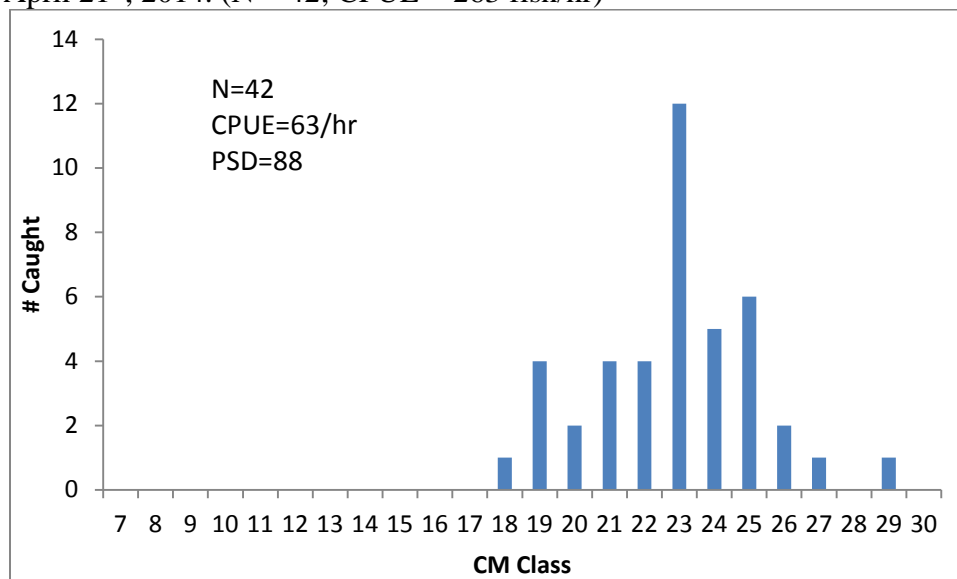
The survey collected 49 redear sunfish (CPUE = 73.5 fish/hr). This catch rate showed an increase from 2013 (CPUE = 58.5 fish/hr). The length distribution was similar to past years with fish in the 4 to 8 inch size range. The majority of fish were in the 6 to 7 inch range. These larger fish will provide most of the action for anglers targeting the sunfish fishery. The large proportion of the redear catch came from the western shoreline of the eastern creek arm. These fish were

near the banks in about two feet of water in a pre-spawn pattern most likely looking for suitable spawning areas. The fishery has shown the ability over the years to produce a decent number of redear sunfish in the 7 to 8 inch range. The redear sunfish collection is similar to past surveys in showing very low recruitment of juvenile fish. No redear sunfish less than 4 inches in size were collected. The foraging ability of the largemouth bass and black crappie populations most likely limits the survival of any redear sunfish juveniles

Black Crappie

The survey collected 42 black crappie (CPUE = 63 fish/hr), which showed an increase from 2013 (CPUE = 52.5 fish/hr). The crappie length distribution ranged from 18-29 centimeters (7-11 inches) with the majority of fish in the 9-10 inch range. There appears to be poor recruitment occurring with no crappie less than 7 inches collected. Electrofishing for crappies tends to be hit or miss, depending on the location of schooling fish. The crappies were weighed to evaluate their relative weights. The relative weight values for stock, quality and preferred-sized crappies ($\geq 5''$, $\geq 7.9''$, $\geq 9.8''$) were 79, 79 and 72 respectively. These values are well below the desired range of 95 to 100. These low relative weight values indicate that the crappies are experiencing difficulties in finding adequate forage and reveal a decline from 2013 (stock: = 85, quality = 86, preferred = 80). The black crappie would most likely be happy to eat any small bait that swims their way. This should make catching them a lot easier for anglers.

Figure 3. Length frequency of black crappies collected from electrofishing of Chandler's Millpond, April 21st, 2014. (N = 42; CPUE = 263 fish/hr)



Additional Species

The survey collected a total of 14 fish species. The remaining species were: common carp, channel catfish, creek chubsucker, American eel, flier, white perch, chain pickerel, gizzard shad, golden shiner and warmouth sunfish. These species will provide some diversity to the fishery and surprise an angler from time to time.

Some of the noteworthy fish collected were the chain pickerel, flier and channel catfish. The survey collected 9 chain pickerel that ranged in size from 8 to 22 inches. The fish of the day

was the trophy chain pickerel that measured 22.91 inches and weighed 4.4 pounds. The survey collected 9 flier that ranged in size from 4 to 9 inches. The largest flier measured an impressive 9.6 inches. One channel catfish was collected. This fish measured 14 inches in length and weighed just shy of a pound. Chandler's Millpond has a limited channel catfish fishery that can produce some quality fish. Anglers have reported catching channel catfish in the 6 to 8 pound range. DGIF hatchery staff stocked 750 channel catfish into Chandler's Millpond in 2014. The same stocking rate will be used in 2015 to provide some additional fish to strengthen the channel catfish population.

A total of only 4 gizzard shad were collected. These shad were rather large and measured from 9 to 14 inches. Any gizzard shad less than 12 inches in length could provide a large meal for a trophy bass. Shad over 12 inches in length are hampering the growth of sunfish species through competition for limited zooplankton and aquatic invertebrates.

Summary

The electrofishing sample of Chandler's Millpond revealed an abundance of largemouth bass with a catch rate of 115 bass/hr. The catch rate of preferred bass (19.5 fish/hr) showed an improvement from the 2013 survey ($CPUE_{\text{preferred}} = 13.5$ fish/hr). The slot limit of 12 to 15 inches appears to have blended various year classes together on the length frequency distribution graph. The 2014 electrofishing survey did not provide any of the larger bass in the 7 to 8 pound range that have recently made Chandler's Millpond an exciting fishery for anglers of the Northern Neck.

The bluegill fishery consists primarily of medium-sized fish in the 4 to 6 inch range. The pond has some potential to grow larger bluegills. A fair abundance of 7-inch bluegills were present in our sample. The pond continues to produce some decent redear sunfish in the 6 to 8 inch range. The sample of 42 black crappies showed most fish to be centered in the 9 to 10 inch range. Chandler's Millpond would be a good place to take young anglers out on a boat in hopes of catching a variety of fish species. Anglers that fish Chandler's Millpond can expect to have decent action from a variety of fish species with the main attraction being the bass fishery. An occasional channel catfish might come as a nice surprise as well. Anglers might be surprised by the trophy chain pickerel action that is lurking within Chandler's Millpond.