Chandler's Millpond 2012 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 27, 2011. The electrofishing effort of 2,400 seconds (0.66 hour) was used to attain a representative sample of the present fishery. Two 20-minute sample runs were conducted along the shoreline. The first survey run was conducted within the eastern creek arm. The second survey run was conducted within the western creek arm. A total of 11 fish species were collected. This report will concentrate primarily upon the largemouth bass, bluegill, black crappie and redear sunfish that were collected.

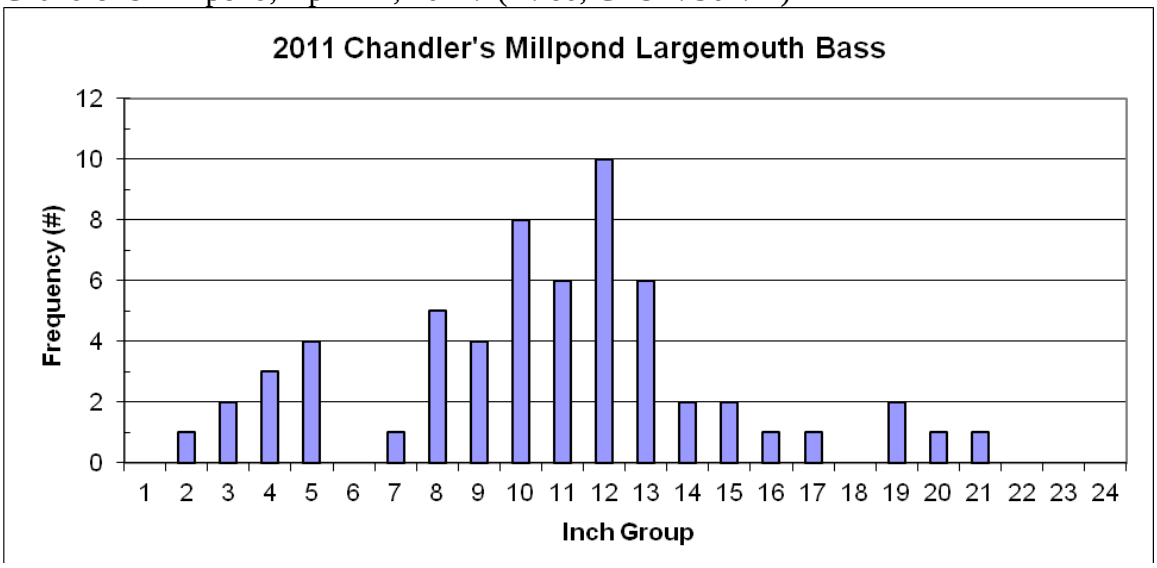
Table 1. Summary of the primary fish species collected by electrofishing of Chandler's Millpond, April 27, 2011.

Species	# Collected	Largest Length	Average Length
Largemouth Bass	90	21.6"	11.1"
Bluegill	270	8"	4.1"
Black Crappie	20	10.7"	8.8"
Redear Sunfish	57	8.9"	6.8"

Largemouth Bass

The largemouth bass fishery appears to be in fair to decent shape. The electrofishing sample collected 60 largemouth bass for a CPUE (Catch Per Unit of Effort) of 90 f/hr. This catch rate showed a slight decline from the 2010 sample (CPUE: 99 f/hr). The size distribution of collected bass is represented on the histogram below. The sample consisted of only 8 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. There was a higher than average percentage of bass in the 12 and 13 inch range. The sample showed a total of 34 bass below the slot limit. The largest bass measured 21.6 inches and weighed 5.93 pounds. Chandler's Millpond has historically produced some larger bass in the 6 to 8 pound range, but the 2011 survey was unsuccessful in finding any of them.

Figure 1. Length frequency of largemouth bass collected from electrofishing of Chandler's Millpond, April 27, 2011. (N: 60, CPUE: 90 f/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.

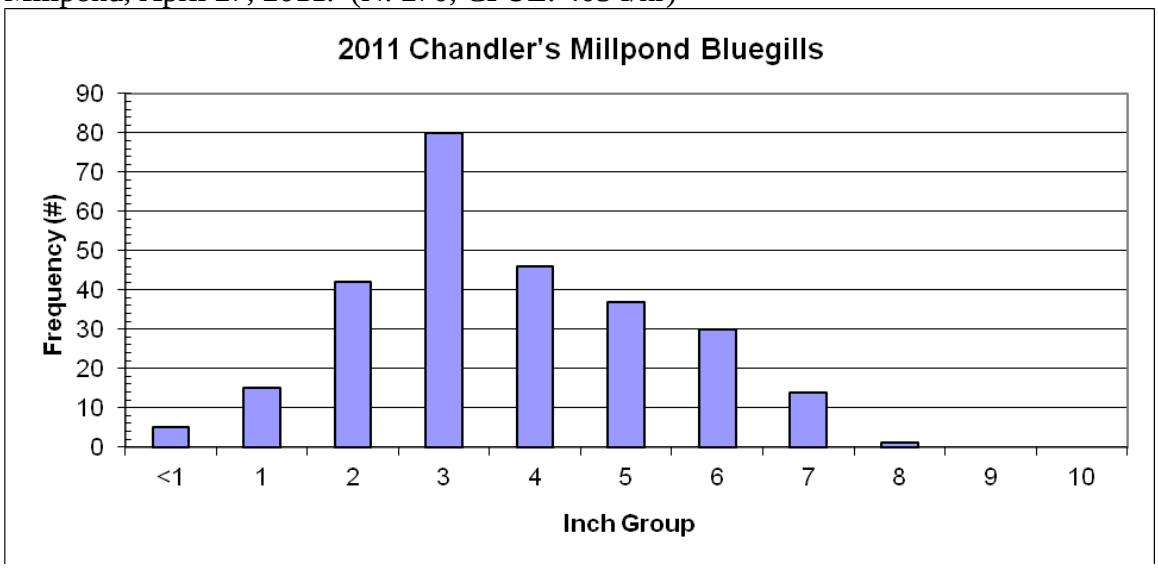
The survey revealed a PSD value of 59. This showed a slight increase from the 2010 survey (PSD: 56). The 2011 PSD value is a direct reflection of the 29 quality-sized bass that were collected. The sample had a total of 49 bass that were stock size or larger. This PSD value is within the desired range of 40–70 that represents a balanced bass fishery. The 2011 RSD-P value of 16 is a direct reflection of the 8 preferred-sized bass collected. This value showed a major decline when compared to the 2010 survey (RSD-P: 32).

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 (>8", >12", >15", >20") were 92, 92, 97 and 98 respectfully. These relative weight values were not as favorable as the 2010 values (stock: 97, quality: 99, preferred: 100 and memorable: 105). The 2011 relative weight values show that the bass are not finding enough prey items to forage upon. The possible stock-piling of the bass population along with poor prey recruitment are possible reasons behind the drops in relative weight values.

Bluegills

The 2011 survey collected a total of 270 bluegills (CPUE: 405 f/hr). This catch rate showed a major increase when compared to the 2010 survey (CPUE: 259 f/hr). The 2011 size distribution was nothing to write home about with the majority of the bluegills within the 3 to 6 inch range. A limited abundance of 7 to 8 inch bluegills were collected. 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 24 and falls within the lower end of the desired 20 to 60 range that would represent a balanced fishery. This PSD value showed a decline from the 2010 survey (PSD: 35). Anglers will be able to have a fair chance at catching decent numbers of bluegills even though the overall size structure of the population is not as attractive as past years.

Figure 2. Length frequency of bluegills collected from electrofishing of Chandler's Millpond, April 27, 2011. (N: 270, CPUE: 405 f/hr)



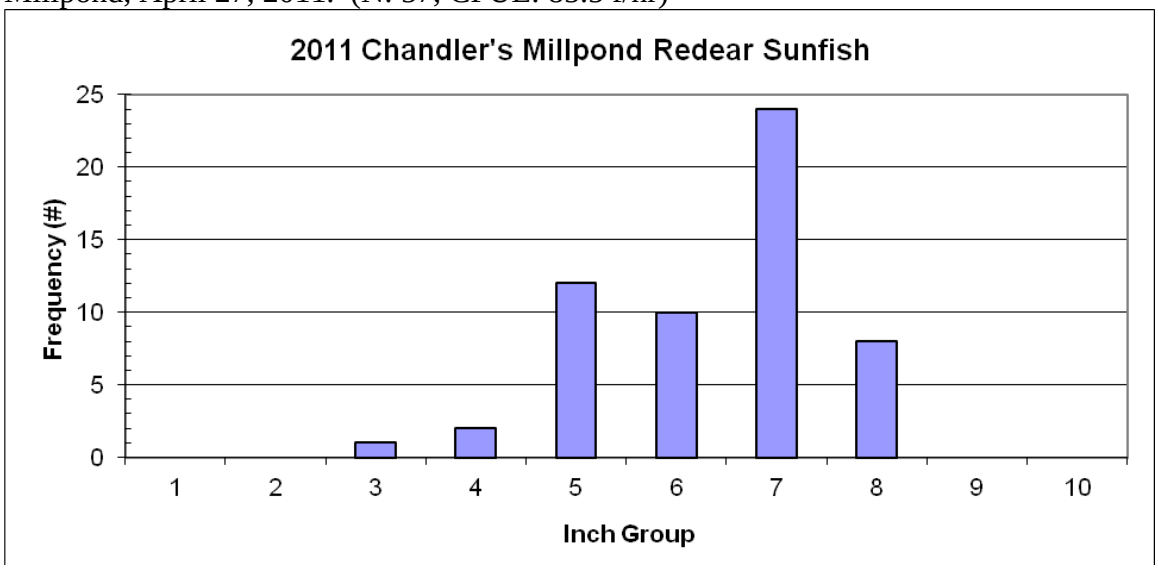
Black Crappies

The sample collected a total of only 20 black crappies (CPUE: 30 f/hr). This catch rate showed a decline from the 2010 survey (CPUE: 35 f/hr). The 2011 crappie distribution ranged from 7 to 27 centimeters (3–10 inches). There appears to be limited recruitment occurring with only 3 crappies less than 8 inches collected. The remaining 17 crappies were within the 8 to 10 inch range. 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 (>5", >7.9" and >9.8") were 86, 86 and 83 respectfully. 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. The 2011 relative weight values were similar to the 2010 survey (stock: 86, quality: 86 and preferred: 78). The only difference noted was the gain in relative weight value (up to 83) from the 3 preferred-sized crappies. The black crappies would most likely be happy to eat any small bait that swims their way.

Redear Sunfish

The sample collected a total of 57 redear sunfish (CPUE: 85.5 f/hr). This catch rate showed a slight increase from the 2010 survey (CPUE: 77 f/hr). The collected redear sunfish ranged in size from 9 to 22 centimeters (3 to 8 inches). The majority of fish were in the 6 to 8 inch range. These larger fish will provide most of the action for anglers targeting the redear sunfish population. The large proportion of the redear catch came from the eastern shoreline of the eastern creek arm. These fish were near the banks in about a foot 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 less than 5 inches in size.

Figure 3. Length frequency of redear sunfish collected from electrofishing of Chandler's Millpond, April 27, 2011. (N: 57, CPUE: 85.5 f/hr)



Additional Species

The sample collected a total of 11 fish species. In additional to the above listed species, there were seven species collected in limited abundance. These species were gizzard shad, American eel, brown bullhead, flier, chain pickerel, golden shiner and creek chubsucker. A total of 27 gizzard shad were collected. These shad were rather large and measured in the 8 to 14 inch range. Any gizzard shad in the 8 to 10 inch range 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. The survey revealed the presence of only 4 American eels. The eels ranged in size from 10 to 12 inches.

Chandler's Millpond produces some decent brown bullheads. The survey collected 3 brown bullheads that measured 13.3, 14.2 and 14.6 inches. The largest bullhead weighed an impressive 1.85 pounds. The survey collected only 1 flier sunfish that measured 6.8 inches. A total of 4 chain pickerel were collected. Three pickerel fingerlings (1.5 to 1.7 inches) were collected along with a 13.7 inch specimen. The survey collected 5 golden shiners and 3 creek chubsuckers. These species will provide some diversity to the fishery and surprise an angler from time to time. No channel catfish were encountered during the survey. Chandler's Millpond has a limited channel catfish fishery that produces some quality fish for anglers that are willing to fish for them.

Summary

The electrofishing sample of Chandler's Millpond revealed a decent abundance of largemouth bass with a catch rate of 90 bass/hr. The catch rate of preferred bass (12/hr) was a disappointment when compared the 2010 survey's high rate of 25 preferred bass per hour. Various year classes were easily seen on the length frequency distribution graph. An abundance of bass in the 12 to 13 inch range were found. Bass greater than 15 inches in length appeared to be in good health and finding adequate amounts of food even though their relative weight values declined from the 2010 survey.

The bluegill fishery consists primarily of medium-sized fish in the 3 to 6 inch range. The pond has some potential to grow larger bluegills. A few 7 and 8-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 20 black crappies showed most fish to be centered in the 8 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. Chandler's Millpond continues to produce a few citation-sized fish. One citation largemouth bass along with 3 citation chain pickerel were reported by anglers during 2011.