



Diascund Reservoir 2011

Diascund Reservoir is owned by the City of Newport News and borders both James City County and New Kent County. The Virginia Department of Game and Inland Fisheries, with agreement from the City of Newport News and James City County, built a public boat ramp, courtesy pier, and parking lot located off of Route 603 near the town of Lanexa. The reservoir is 1,110 acres in size and has a number of large creek arms. The reservoir has plenty of interesting contour and structure. Several small islands, numerous large points, and bridge crossings all add to the extreme variability of the topography. The use of outboard engines is prohibited on Diascund Reservoir. The use of trolling motors is permitted. Anglers might want to make sure that they have two fully charged batteries if they plan on making long trips toward the upper reaches of the creek arms.

The Virginia Department of Game and Inland Fisheries conducted electrofishing surveys of Diascund Reservoir on April 7th, 8th, and 23rd, 2010. The 2010 surveys allowed for the sampling of 9 different regions of the reservoir to get a broad spectrum of the fish assemblage present. Electrofishing efforts consisted of shocking along the shoreline habitat as close as possible, with the majority of the effort concentrated in the 2 to 4 foot depth range. A total effort of 3 hours of electrofishing yielded the collection of 17 fish species. This report will concentrate primarily upon the seven major fish species: largemouth bass, bluegill, black crappie, chain pickerel, bowfin, yellow perch, and redear sunfish.

Largemouth Bass

The largemouth bass population within Diascund Reservoir appears to be in good shape. A total of 237 largemouth bass were collected. The CPUE (Catch Per Unit of Effort) for largemouth bass was 79 bass/hr. This catch rate showed a slight increase from 2009 (CPUE: 74.5 bass/hr). Tables 1 - 3 provide some additional analysis of the bass collected from each sample run. Most sample runs were able to collect a decent bass in the 18 to 20 inch range. The maximum size and the average size of bass per each run are expressed in the tables. The size distribution of the collected bass can be seen on the enclosed length frequency graph.

Run #	1	2	3
# of bass	29	18	29
CPUE bass/hr	87	54	87
Max size	17.8"	19.29	22.13"
Average size	9.83"	14.7"	14.7"

Table 1. Collection of largemouth bass from sites in the Wahrani Creek arm (4/7/10)

Run #	1	2	3
# of bass	16	26	25
CPUE bass/hr	48	78	75
Max size	18.9"	17.36"	19.68"
Average size	10.42"	10.38"	11.24"

Table 2. Collection of largemouth bass from various sites in the middle reservoir basin (4/8/09)

Run #	1	2	3
# of bass	30	36	28
CPUE bass/hr	90	108	84
Max size	19.21"	20.15"	19.96"
Average size	13.61"	11.54"	10.77"

Table 3. Collection of largemouth bass from western banks of the middle basin (4/23/10)

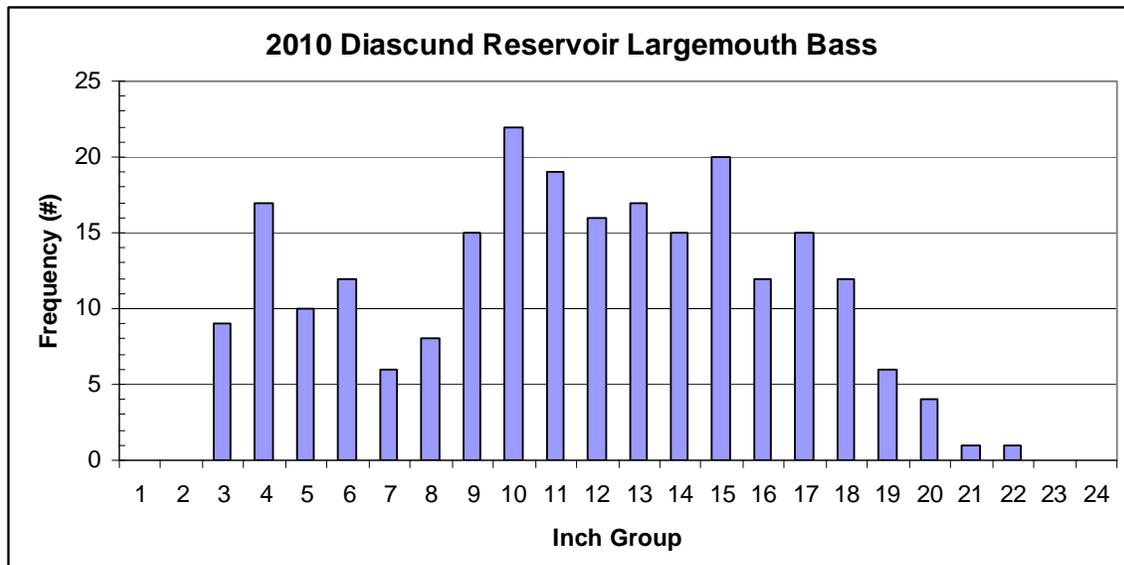


Figure 1. Length frequency distribution of largemouth bass collected from Diascund Reservoir on April 7th, 8th, and 23rd, 2010 (N: 237, CPUE: 79 f/hr)

The 2010 distribution showed an abundance of bass in the 10 to 15 inch range. The last few year classes have provided some fair recruitment. A decent number of bass were within the 16 to 20 inch range. These bass will provide a great deal of the fishing excitement if anglers are able to catch some of the larger fish that are present. The survey did not collect any trophy-sized bass, but 6 memorable-sized bass (20" and larger) were collected. The largest bass measured 22.1 inches and weighed 6.46 lbs.

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. It is through this size classification that population dynamics are analyzed. The PSD

(Proportional Stock Density) is the proportion of stock-sized bass (8 inches or larger) that are also equal to or greater than 12 inches (quality size). The sample showed a PSD value of 66, which is a direct reflection of the 121 quality-sized bass. The sample had a total of 183 bass that were stock size or larger. A balanced bass/bluegill fishery has a bass PSD value within the 40 – 70 range. The 2010 PSD value (66) showed an increase when compared to the 2009 survey (PSD: 58). The RSD-P (Relative Stock Density of Preferred bass) is the proportion of stock-sized bass that are also equal to or greater than 15 inches in length. The 2010 RSD-P value of 39 is a direct reflection of the 71 preferred fish being collected and showed a slight increase from the 2009 survey (RSD-P: 37).

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 2010 relative weight values for stock, quality, and preferred bass (>8", >12", >15") were 97, 98 and 99 respectfully. These relative weight values showed a decline from the 2009 relative weight values (100, 103 and 103), but still fall within the desired range of 95 to 100.

Bluegills

The survey was similar to past years with the bluegill population dominated by fish less than 6 inches in length. A total of 632 bluegills were collected over the course of two sample runs. The CPUE of 948 bluegills/hr showed a major increase from the 2009 sample (CPUE: 210 bluegills/hr). The collected bluegills ranged in size from 3 – 17 centimeters (1.2 to 7 inches). A large proportion of collected bluegills were in the 6 to 12 centimeter range (2.4 to 4.7 inches).

The PSD for bluegill is the proportion of bluegills over 3.15 inches (stock size) that are also at least 5.9 inches (quality size). The bluegill PSD value of 5 showed a regression to a less than ideal value. The 2009 survey with the PSD value of 11 showed a little more balance than the 2010 survey. The 2010 collection consisted of only 23 quality-sized bluegills. Both PSD values are below the desired 20 - 40 range that would represent a balanced bluegill population. There was an increase in the abundance of juvenile-sized bluegills with 184 young fish less than stock size.

Trap net sampling was conducted on Diascund Reservoir on March 22-24, 2010. The main purpose of this type of sampling is to collect the schooling fish such as black crappies and yellow perch. The reservoir was broken up to allow for 10 net nights in the western half of the reservoir and 10 net nights in the eastern half. The trap nets were able to collect 17 species of fish. The nets were successful in catching bluegills. A total of 4,295 bluegills were collected (CPUE: 214.8 f/net night). This catch rate far surpasses the 2009 survey (CPUE: 85/net night). One of the trap nets caught an all-time net record of 1,616 bluegills. The majority of the bluegills were in the 2 to 5 inch range. A total of 259 quality-sized bluegills were collected. All bluegills were less than 8 inches in size.

Black Crappie

The black crappie population appears to be in fair shape with majority of sample consisting of crappies in the 6 to 8 inch range. The electrofishing sample collected 88 black crappies for a CPUE of 29.3/hr. This catch rate showed an increase from the 2009 sample (CPUE: 11.5/hr). Black crappies tend to school in waters deeper than bass and bluegills. Taking this into account, the typical shoreline sample can be very random as to

whether or not a school is encountered during a sample run. Some black crappies may have been near the shallows in preparation for the spring spawn. The five black crappies in the 12 to 13 inch range show that some older fish have been able to survive and outgrow past the wedge of fish that are present in the 6 to 8 inch range.

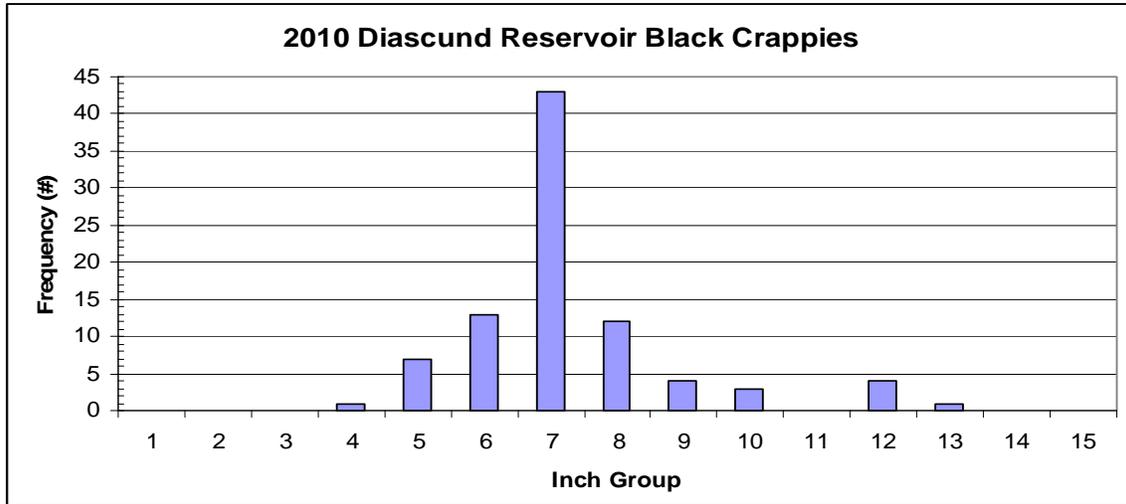


Figure 2. Length frequency distribution of black crappies collected from Diascund Reservoir on April 7th, 8th, and 23rd, 2010 (N: 88, CPUE: 29.3/hr)

The trap net survey collected a total of 422 black crappies (CPUE: 21.1 f/net night). This catch rate showed a favorable improvement when compared to the 2009 survey (CPUE: 7 f/net night). The majority of crappies were less than 9 inches in length. A total of only 33 crappies were 9 inches or larger. The largest crappie measured 13 inches. Diascund Reservoir has the potential to produce some larger black crappies even though there is a large percentage of the population stuck within the 6 to 8 inch range. Angler harvest of crappies in the 7 to 8 inch range will assist the overall population's attempt to become more balanced in the future.

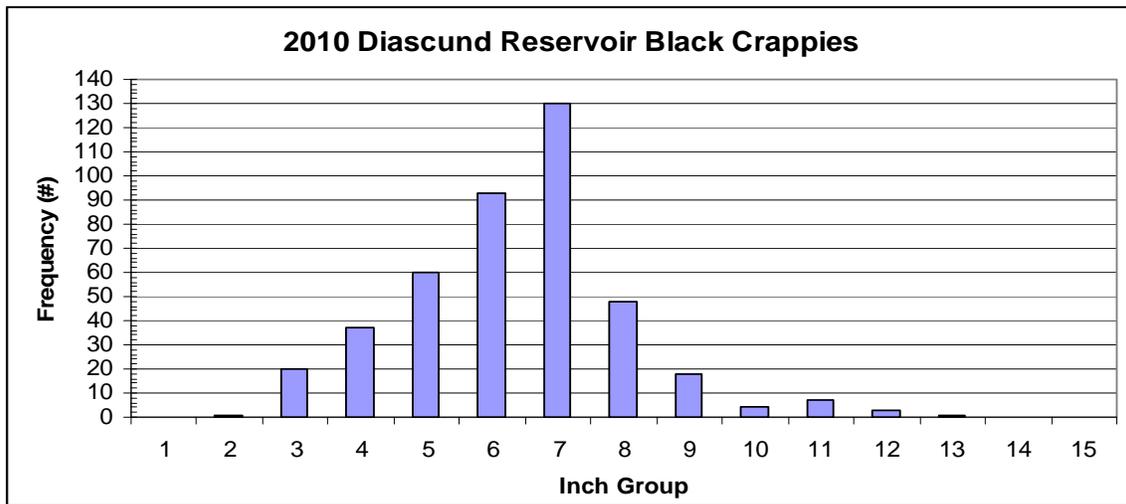


Figure 3. Length frequency distribution of black crappies collected from the trap net sampling of Diascund Reservoir on March 22-24, 2010. (N: 422, CPUE: 21.1/net night)

Chain Pickerel

The 2010 survey showed some improvements in chain pickerel abundance. A total of 41 chain pickerel were collected (CPUE: 13.7 f/hr). This catch rate showed a slight increase from the 2009 survey (CPUE: 9.5 f/hr). The size distribution ranged from 6.5 to 21 inches. The chain pickerel population offers some diversity to the fishery and will provide some fishing action when the bass are not cooperating. The recent increase of hydrilla growth in certain areas of the reservoir may actually help to provide great spawning habitat for chain pickerel as well as great habitat for juvenile fish. The size distribution was similar to 2009 with a large proportion on the sample centered in the 8 to 11 inch range. Only 3 chain pickerel measured larger than 15 inches in size. Anglers are reminded that chain pickerel are a natural piece of the fish assemblage in Diascund Reservoir. Adult chain pickerel will actually help the fishery by eating some of the juvenile yellow perch.

Bowfin

Diascund Reservoir continues to produce some respectable bowfin. The 2010 survey collected 27 bowfins (CPUE: 9/hr). This catch rate showed a decline from the 2009 survey (CPUE: 10.8/hr). The majority of bowfin ranged in size from 17 to 24 inches. The largest bowfin measured 28.4 inches and weighed 7.7 pounds. Past electrofishing surveys have usually produced a citation-sized bowfin, but the 2010 surveys were unsuccessful in finding one of the larger female bowfins. The average size bowfin measured 21.8 inches and weighed 3.74 pounds. The possibility exists for anglers to catch a bowfin while fishing Diascund Reservoir. There is also a chance that they might hook into one of the citation-sized bowfins greater than 10 pounds.

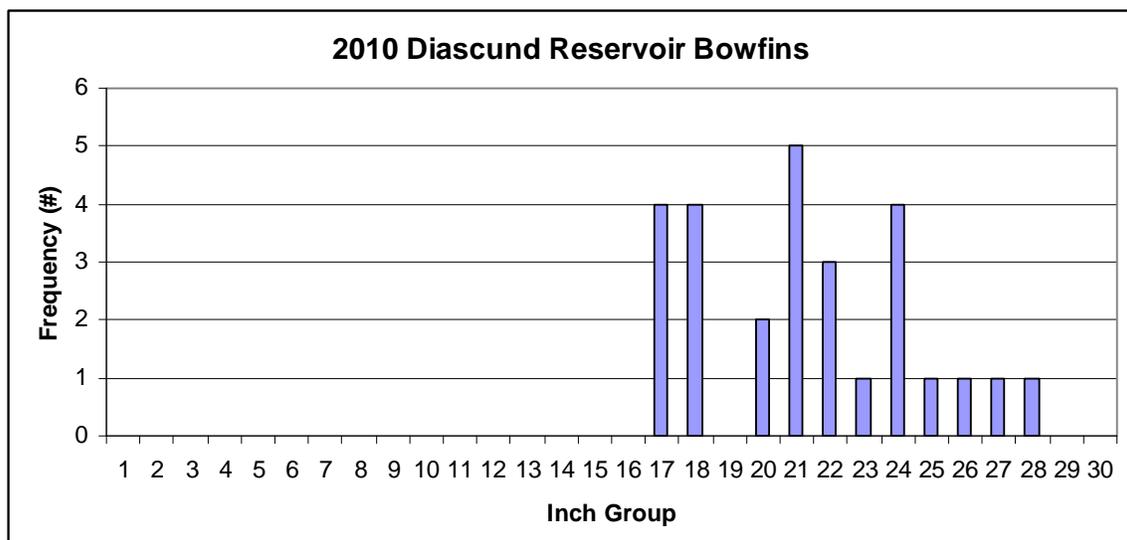


Figure 4. Length frequency distribution of bowfins collected from Diascund Reservoir on April 7th, 8th, and 23rd, 2010 (N: 27, CPUE: 9/hr)

Yellow Perch

A total of 254 yellow perch were collected during the electrofishing runs. The CPUE of 84.7/hr showed an increase when compared to the 2009 survey (CPUE: 72.9/hr). The size distribution ranged from 3 to 9.5 inches with the majority in the 4 to 6 inch range. One could assume that the yellow perch growth potential has been stunted due the white perch abundance and limited presence of juvenile bluegills. Anglers targeting the yellow perch population should take into account the abundance of small perch and the limited presence of larger perch. An occasional larger yellow perch is found by anglers each year.

Redear Sunfish

The redear sunfish population appeared to be in decent shape. The CPUE of 85.5/hr showed a decline from the 2009 sample (CPUE: 97/hr). The majority of fish were in the 6 to 9 inch range. The survey revealed a limited abundance of juvenile redear sunfish less than 5 inches in length. This is an area of concern when it comes to future stock of the redear sunfish population. The majority of redear sunfish were collected along the pocket coves on the western side of the Wahrani Creek arm.

White Perch

The electrofishing survey continued to show an abundance of white perch within Diascund Reservoir. A total of 387 white perch were collected over the course of the three days. The catch rate of 129 f/hr showed a decline from the 2009 survey (CPUE: 148.4 f/hr). Large schools of white perch were observed in various areas of the reservoir. The size distribution continues to be based around the 6 to 7 inch range. The largest white perch measured 10 inches in length. The white perch population will put extra stress on the reservoir's forage base. White perch will compete with the bass, chain pickerel and black crappie for small baitfish and juvenile sunfish. All white perch were removed from the reservoir and transported to the Harrison Lake Federal Fish Hatchery for use in the DGIF freshwater mussel propagation project.

Additional Species

The remaining fish species collected during the electrofishing survey were spotted bass, common carp, tessellated darter, American eel, longnose gar, blueback herring, pumpkinseed sunfish, golden shiner and gizzard shad. These species were collected in limited abundance and will provide some diversity to the fishery.

The trap net survey collected a total of 17 species. Fish diversity was similar to species collected during the electrofishing survey. The trap net survey was successful in catching bluegills and black crappies. The species caught in low abundance were: largemouth bass, bowfin, brown and yellow bullheads, creek chubsucker, American eel, flier, margined madtom, eastern silvery minnow, white perch, yellow perch, chain pickerel, golden shiner, redear sunfish and warmouth.

Sample Summary

The electrofishing and trap net surveys of Diascund Reservoir showed a diverse fishery. The reservoir provides some decent bass fishing. The electrofishing sample revealed an abundance of bass in the 10 to 15 inch range and a good number of bass in

the 14 to 18 inch range. The overall catch rate of largemouth bass (CPUE: 79 bass/hr) was decent. A total of 71 bass were 15 inches or greater in length.

The bluegill and yellow perch fishery is primarily based on small fish less than 6 inches in length. The electrofishing of black crappies was spotty with a decrease in catch rate when compared to the 2008 survey. The reservoir provides some action for anglers that enjoy catching chain pickerel and bowfin. The surveys revealed an increased abundance of chain pickerel, but few larger pickerel were collected. The catch rate of bowfins showed a decline, but many of the collected fish were in the 17 to 24 inch range. The reservoir produces some nice redear sunfish in the 6 to 9 inch range.

Anglers reported a total of only 4 citations from Diascund Reservoir during 2010. This total consisted of 1 black crappie, 1 yellow perch, 1 longnose gar and 1 chain pickerel. The black crappie citation was a length citation at 15 inches. The yellow perch citation measured 13 inches. The longnose gar citation measured a very impressive 45 inches and weighed 13 lbs. The chain pickerel citation measured 25 inches and weighed 4 lbs. 6 oz. Diascund Reservoir provides an assortment of fishing opportunities. It just depends upon which species of fish you plan to target.

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