Lake Wildwood

2020 Fish Survey

September 2020

Prepared For

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Executive Summary

This study was conducted for the Lake Wildwood Association to provide comprehensive biological data of fish composition in Lake Wildwood in Varna, Illinois. The primary objective of this survey was to measure and count the gamefish and panfish species to assess current fish population and the success of the fish stocking program. A secondary objective was to remove Common Carp from Lake Wildwood. The entire shoreline and all available littoral habitats were sampled to provide a more detailed analysis of the fish population.

Lake Wildwood was boat electrofished on September 2, 2020. The electrofishing was conducted in a counterclockwise direction around the lake with a total pedal time of 212 minutes. There was a total of 924 fish representing 7 families and 15 species collected during the electrofishing effort. The catch was dominated by Gizzard Shad (50%), Largemouth Bass (27%), Bluegill (7%), Smallmouth Bass (5%) and White Crappie (4%).

Lake Wildwood has a diverse fish population with a mix of forage and predator species. Many of the fish species were within the recommended management goals implying a healthy and productive system. The top predator fish present include: Largemouth Bass, Smallmouth Bass, and Flathead Catfish with Walleye, Northern Pike, and Tiger Muskie stocked into the lake but not encountered during this survey. The predator fish are likely feeding on the Gizzard Shad. The abundant Gizzard Shad are competing with the young-of-year and juvenile game fish, Bluegill and Crappie for food. It is recommended to focus on the management of the Gizzard Shad to increase the recruitment of desirable species. The management of Gizzard Shad can be done by stocking top predator fish species.

Recommendations to improve the fishing at the lake and to maintain the water quality over the next three years include:

- Fish stocking program
- Fish creel limits
- Future fish surveys
- Watershed management
- Develop a lake management plan

1 Introduction

1.1 Purpose

Deuchler Engineering Corporation (Deuchler) was contracted by the Lake Wildwood Association to provide comprehensive biological data of the fish community of Lake Wildwood. This report will summarize the results from the Deuchler sampling.

1.2 Sample Location Description

Lake Wildwood Association is a private, gated recreational community that is centrally located between Chicago and Peoria, just north of Varna, Illinois. The Association boasts two lakes – Lake Wildwood and Lake Tanglewood. Lake Wildwood is 220 acres and offers boating, fishing, and swimming. Lake Tanglewood is 18 acres and is strictly a fishing lake located near the private campground. The Lake Wildwood Association has established fish creel limits and fishing regulations for the lake to enhance sport fishing opportunities for residents. Lake Wildwood has been stocked with various fish species to enhance the angling experience (Table 1).

The entire shoreline of Lake Wildwood was boat electrofished (Figure 1). Prior to sampling, Google Earth was used to divide the shoreline into 2-mile segments, a 1.5-mile gamefish zone and a 0.5 mile all species zone. The shoreline was divided into five electrofishing zones. There were three gamefish zones and two all species zones. The gamefish zones were approximately 1.5 miles long and only Largemouth Bass, Smallmouth Bass, Crappie, Flathead Catfish, Yellow Perch, Freshwater Drum, and less common species encountered were collected. The all species zones were approximately 0.5-mile-long each and all fish encountered were collected. Distance of each zone was measured using a Garmin GPS 72H.

2 Materials and Methods

2.1 Sampling Plan

The primary objective of this survey was to count and measure gamefish and panfish for Lake Wildwood Association's use in fish population management. Boat electrofishing was conducted on September 2, 2020. Electrofishing is a standard gear type for sampling lakes and rivers used by various government research agencies, including the Illinois Department of Natural Resources and Illinois Natural History Survey. Electrofishing is a shallow water gear that targets all sizes and species of fish.

A 16' Alumacraft boat equipped with a Smith-Root 5.0 Generator Powered Pulsator (GPP) electrofisher system was used to sample the perimeter of Lake Wildwood (Photo 1). The electrode array consisted of the aluminum boat hull as the cathode and 6 droppers suspended from two booms as the anode. Each anode dropper is 3/8" woven steel cable that has a length of three feet. The booms extend eight feet in front of the bow of the boat.

The electrofishing sampling crew consisted of one person on the front of the boat that netted stunned fish and the boat operator that also had a net to collect additional stunned fish. Electrofishing was conducted in a counterclockwise direction around Lake Wildwood with a total pedal time of 212 minutes. The electrofishing boat was maneuvered along the shoreline out to the aquatic plant edge to sample available habitat. The catch was placed into a 75-gallon stock tank that was aerated with oxygen. Prior to sampling, Google Earth was used to divide the shoreline into 2-mile segments, a 1.5-mile gamefish zone and a 0.5 mile all species zone. Within each gamefish zone Largemouth Bass, Smallmouth Bass, Crappie, Flathead Catfish, Yellow Perch, Freshwater Drum, and less common species encountered were collected, measured to the nearest millimeter (mm), and weighed to the nearest gram (g). Within each all species zone, all fish encountered were collected. A minimum of 100 individuals of each gamefish and panfish species were randomly selected, measured (mm) and weighed (g). Minnow species were measured to the nearest centimeter (cm) and counted. Data from each sampling location was recorded on a separate datasheet. All fish were released back into Lake Wildwood except for Common Carp that were disposed of by the Lake Wildwood Association.

Photo 1. Boat Electrofishing

3 Results

Abundance of fish species provides an overview of the total number of each species present in the survey area. The study yielded a total of 924 individual fish representing 7 families and 15 species (Table 2). The catch was dominated by Gizzard Shad (50%), Largemouth Bass (27%), Bluegill (7%), Smallmouth Bass (5%) and White Crappie (4%).

3.1 Assessment Metrics

Various metrics are utilized to determine the health of a fishery. Catch per unit effort (CPUE, fish collected/hour) illustrates fish abundance. The gamefish zones were dominated by Largemouth Bass with a CPUE of 73 fish per hour followed by Smallmouth Bass (12 fish/hour) and White Crappie (6 fish/hour, Table 3). The all species zones were dominated by Gizzard Shad (864 fish/hour), Bluegill (72 fish/hour), Largemouth Bass (61 fish/hour), and White Crappie (27 fish/hour, Table 4). The overall CPUE for all species combined was dominated by Gizzard Shad (864 fish/hour), Bluegill (71 fish/hour), Largemouth Bass (70 fish/hour) and Green Sunfish (20 fish/hour, Table 5).

A proportional stock density (PSD) value is used to evaluate the condition of the fishery. The index compares the number of fish longer than a species-specific quality size to the number of fish longer than a species-specific stock size. The PSD value generated can be used to compare samples among different years and different lakes. The PSD value also represents the percent of sexually mature fish in the sample and the sample is assumed to be representative of the population. A balanced population has a PSD value between 40% and 60%. A relative stock density (RSD) value is used to show the proportion of mature fish over a certain size.

The relative weight (Wr) is an index used to determine the body condition of fish (Murphy 1996). The Wr is calculated by dividing the weight of the individual by the expected weight for a fish of the same species at the same length. The mean Wr should be between 90 and 100.

3.2 Largemouth Bass

The CPUE management goal for Largemouth Bass 1.0 fish per minute. During Deuchler's survey, Largemouth Bass were collected at a rate of 1.17 fish per minute, matching the recommended rate. There were 249 Largemouth Bass collected with 78% less than six inches in length. The PSD for Largemouth Bass uses a stock size of eight inches and a quality size of 12 inches. The Largemouth Bass PSD value was calculated to be 56 and is within the management goal, indicating the mature population is balanced. The RSD-14 value for Largemouth Bass greater 14 inches was 24 (goal 20-40) and the RSD-15 value for Largemouth Bass greater than 15 inches was 15 (goal 10-20). These RSD values are within the recommended management goals for Largemouth Bass (Figure 2). The Largemouth Bass population appears to be in good condition as there is a reduction in abundance as the fish get longer (Figure 3). There were five Largemouth

Bass collected over 15 inches with the largest being 17.6 inches (Photo 2). These numbers show the Largemouth Bass population in Lake Wildwood is healthy with good numbers of juvenile and mature individuals. Figure 4 illustrates the overall length distribution of Largemouth Bass collected in 2020.

The mean Wr for Largemouth Bass in Lake Wildwood was 92.7 indicating they are in good condition and proportional in length and weight. The relative weights have remained consistent in the 90 to 100 range in all previous reports. This is due to the abundant forage available in Lake Wildwood. Overall, the Largemouth Bass in Lake Wildwood have good body condition, are at the recommended abundance, and has successful natural reproduction.

The Largemouth Bass population is maintained by successful natural reproduction as indicted with 78% of the catch less than six inches in length. It was noted in previous reports from the Illinois Department of Natural Resources that the establishment of aquatic plants and woody vegetation contributed to the good natural reproduction and recruitment (Herndon 2012).

Photo 2. Largemouth Bass

3.3 Smallmouth Bass

There were 44 Smallmouth Bass collected with 39% less than six inches in length. The PSD for Smallmouth Bass uses a stock size of seven inches and a quality size of 11 inches. Smallmouth bass greater than 14 inches are preferred, greater than 17 inches are considered memorable and greater than 20 inches is considered trophy. The Smallmouth Bass PSD value was calculated to be 70 which is above the management goal, indicating a high number of mature Smallmouth Bass. The RSD-14 for preferred size Smallmouth Bass was 30 (goal 20-40) and the RSD-17 for memorable Smallmouth Bass was 11 (goal 10-20) and the RSD-20 for trophy size Smallmouth

Bass was 4. These RSD values are within the recommended management goals for Smallmouth Bass (Figure 5). These numbers show the Smallmouth Bass population in Lake Wildwood is healthy with good numbers of mature individuals. There were seven Smallmouth Bass collected over 14 inches, three greater than 17 inches and one over 20 inches (Photo 3). Like the Largemouth Bass, these numbers show the Smallmouth Bass population in Lake Wildwood is healthy with good numbers of juvenile and mature individuals. Figure 6 illustrates the overall length distribution of Smallmouth Bass collected in 2020.

The mean Wr for Lake Wildwood Smallmouth Bass was 82.5 indicating they are underweight for their length. Overall, the Smallmouth Bass in Lake Wildwood have fair body condition, are at the recommended abundance, and show successful natural reproduction.

The Smallmouth Bass population is maintained by successful natural reproduction as indicted with 39% of the catch less than six inches in length. It was noted in previous reports from the Illinois Department of Natural Resources that the establishment of aquatic plants and woody vegetation contributed to the good natural reproduction and recruitment (Herndon 2012).

Photo 3. Smallmouth Bass

3.4 Bluegill

The PSD for Bluegill uses a stock size of three inches and a quality size of six inches. The PSD value was calculated to be 16 which was below the management goal of 40 to 60. This reduced PSD value could be due to the presence of Gizzard Shad which compete for the same forage. There was a good distribution of fish in the three to six-inch range (Figure 7). The largest Bluegill collected was 6.9 inches (Photo 4). The lack of larger size fish could be a result of the abundant Gizzard Shad as well as fishing pressure. The mean Wr of 93 for Bluegill showed they were in

good condition and stunting does not appear to be a problem. There were areas of woody debris and vegetation around Lake Wildwood which provide refuge sites to escape predators.

Photo 4. Bluegill

3.5 Crappie

The PSD for Crappie uses 5 inches for stock size and 8 inches for quality size. The PSD value was calculated to be 97, indicating there few fish collected between the 5 and 8 inches. The RSD-9 was 63, and the RSD-10 was 8 (Figure 8). Like the Largemouth Bass, this index shows Black Crappie are present at sizes capable of reproduction. The length frequency shows that there could be limited reproduction occurring in Lake Wildwood with the collection of 4 Crappie less than 3 inches (Figure 9). They ranged in size from 2.4 inches to 10.8 inches (Photo 5). Black Crappie are part of the stocking program and in November of 2019 there were 1670 in the three to five-inch range stocked into Lake Wildwood. With Crappie showing signs of successful reproduction, caution should be taken with stocking to ensure the population stays manageable.

The mean Wr for Crappie was 109, which means the fish collected were of good body proportion. There were areas with woody debris habitat around Lake Wildwood which is preferred habitat for Crappie.

Photo 5. White Crappie

3.6 Gizzard Shad

Gizzard Shad were a dominant species collected during all species electrofishing zones (Photo 6). The CPUE for Gizzard Shad was 14.4 fish per minute. There was a total of 461 collected in 32 minutes. The Gizzard Shad collected ranged in size from two to 13 inches with a majority being less than three inches (Figure 10). The PSD for Gizzard Shad uses a stock size of seven inches and a quality size of 11 inches. The Gizzard Shad PSD value was 31. The Wr for Gizzard Shad was 103 which means Gizzard Shad greater than seven inches are in healthy condition. With the abundant schools of Gizzard Shad in Lake Wildwood, it is likely they are competing for available food with other species such as Bluegill, Crappie, and other young-of-year and juvenile fishes. Gizzard Shad are likely underrepresented in this survey due to the fact they reside in the limnetic zone, the offshore, open water area. Gizzard Shad are a preferred forage fish for top predator species. The smaller Gizzard Shad will be preyed upon by Largemouth Bass, Smallmouth Bass, Walleye, Striped Bass, and Musky. The larger Gizzard Shad will be eaten by larger Musky and Striped Bass.

Photo 6. Gizzard Shad

3.7 Other Species

Other species collected include Quillback, Green Sunfish, Flathead Catfish, Yellow Perch, Freshwater Drum, Common Carp, Bluntnose Minnow, Emerald Shiner, and Spotfin Shiner. None of these species were collected in large numbers but were present in the lake and add to the species diversity.

There were two Quillback Carpsuckers ranging in size from 20 inches to 25 inches (Photo 7). There were 17 Green Sunfish collected (Photo 8). In addition, there were also five Flathead Catfish collected ranging in size from 9.1 to 37.9 inches (Photo 9). The Flathead Catfish had a mean Wr of 107 meaning they are in very good health and body condition. Yellow Perch made up 0.5% of the total catch with 5 collected ranging in size from 2.8 to 7.1 inches. Freshwater Drum were also present in Lake Wildwood with 14 collected ranging in size from 9.6 to 26.0 inches (Photo 10).

All Common Carp encountered were removed from Lake Wildwood (Photo 11). There were only seven collected and measured during the all species zones, however Lake Wildwood members followed the Deuchler boat and netted any Common Carp stunned during the gamefish zones. Other minnow species encountered include Bluntnose Minnow, Emerald Shiner, and Spotfin Shiner.

Photo 7. Quillback Carpsucker

Photo 8. Green Sunfish

Photo 9. Flathead Catfish

Photo 10. Freshwater Drum

Photo 11. Common Carp

4 Discussion

4.1 Fish

Lake Wildwood has a diverse fish population with a mix of forage and predator species. Many of the fish species were within the recommended management goals implying a healthy and productive system. The top predator fish present include: Largemouth Bass, Smallmouth Bass, and Flathead Catfish with Walleye, Northern Pike, and Tiger Muskie also stocked into Lake Wildwood but not encountered during this survey. The predator fish are likely feeding on the Gizzard Shad. The abundant Gizzard Shad are competing with the young-of-year and juvenile game fish, Bluegill and Crappie for food. It is recommended to focus on the management of the Gizzard Shad by stocking top predator fish species.

4.2 Aquatic Plants

Aquatic plants are necessary habitat for fish. Plants provide an area for forage fish to feed and seek refuge as well as an area for predator fish to hide and ambush their prey. The plants provide a substrate for fish to lay eggs and for macroinvertebrates and algae to inhabit. These macroinvertebrates and algae become food for small fish. The secchi depth was 5.4 feet. Aquatic plants need one percent surface light level to grow. This level is usually two times the secchi depth, so plants could grow in depths down to approximately 10.8 feet. This means that the aquatic plant coverage would be limited to the near shore areas as well as the coves, according to the bathymetric map provided. There were areas with aquatic plants encountered during the survey and they were harboring juvenile and young-of-year fish species. If the water clarity increases, plants would be able to grow in deeper water. Native aquatic plants should be encouraged, and invasive species should be managed. The nutrients within the lake will be consumed by either aquatic plants or algae.

4.3 Recommendations

To maintain the diversity and health of Lake Wildwood, Deuchler has the following recommendations.

4.3.1 Fish Stocking Program

Lake Wildwood has been stocked with sportfish to maintain a diverse fishery. Yellow Perch, Tiger Musky, and Northern Pike have been stocked annually 2017. Walleye and Black Crappie were also stocked in 2018. Although there were no Tiger Musky or Walleye collected, they should continue to be stocked to maintain their population. Stocking should concentrate on the game species as well as supplemental stocking of other desirable species that are currently in low numbers such as Crappie and Striped Bass.

The Largemouth Bass and Smallmouth Bass population is healthy with a good size distribution of immature and mature individuals and should not be stocked in Lake Wildwood. Walleye are

primarily a riverine species (Smith 1979). There was been 910 Walleye stocked into the lake in 2018. However, they prefer moving water and gravel substrate, it is not surprising that they were not found (Becker 1983). Although Northern Pike are top predator, they aren't as desirable and won't grow as large as Tiger Muskie and should be discontinued from the stocking program. Walleye, Tiger Muskie, Striped Bass and Channel Catfish are a desired fish of anglers. Stocking of these species can increase the predator fish population in an effort to control the Gizzard Shad population. However, they will not become self-sustaining populations and will need to be stocked frequently to maintain their presence. Stocking should concentrate on the predator species as well as supplemental stocking of other desirable species that are currently in low numbers such as: Yellow Perch and Black Crappie. Caution should be taken with the Yellow Perch and Black Crappie as they can become overpopulated if not monitored.

Lake Wildwood Association should stock the following fish annually to maintain the species and control the Gizzard Shad populaion:

- 500 6-inch Walleye ($1,650)
- 1,000 4-inch Black Crappie ($1,750, until the population shows signs of becoming self-sustaining)
- 500 4-inch Yellow Perch ($875, until the population shows signs of becoming self-sustaining)
- 100 12-inch Tiger Muskie ($2900)
- 500 8-inch Striped Bass as a predator to control Gizzard Shad ($1,000)

  However, there may be a chance that anglers will harvest the recently stocked Striped Bass since they are similar in appearance to White Bass. Posting signs and distributing identification material will educate anglers how to differentiate between the two species.

The following every three years to maintain the species:

- 1000 10-inch Channel Catfish ($1,750)

These stocking recommendations would cost approximately $8,175 annually with an additional $1,750 every third year. These prices are based on the 2018 fish price list from Keystone Hatcheries in Richmond, Illinois. Prices may vary between fish sources and years. If budgetary circumstances limit the amount of fish that can be stocked, the stocking should focus on the top predators (Tiger Musky and Striped Bass) as a way to manage the Gizzard Shad population.

4.3.2 Fish Creel Limits

The current creel limits appear to be working. The Largemouth Bass and Smallmouth Bass are a self-sustaining population and currently in good health. There were a large number of juvenile Largemouth and Smallmouth Bass collected indicating successful reproduction. These small

bass are competing with the small Gizzard Shad for forage food. With proper management of the Gizzard Shad, the Largemouth and Smallmouth Bass recruitment should increase. The Crappie were collected in low numbers, however 57% of the Crappie collected were over the minimum harvestable length limit of nine inches. The Crappie regulation should continue with the nine-inch minimum size limit, but the daily bag limit should be reduced to 10 to allow for more natural reproduction. There were no Bluegill collected over six inches and very few Yellow Perch. A creel limit should be implemented to only keep 10 panfish (Bluegill and Yellow Perch) with a minimum size of 7 inches to increase their overall abundance and size structure.

4.3.3 Future Fish Surveys

A comprehensive fish survey should be completed in three to five years to evaluate the stocking program, creel limits, and ensure the fish population is continuing to meet the expectations of the Lake Wildwood Association.

4.3.4 Watershed Management

Stormwater brings detrimental nutrients such as phosphorus and chloride into the lake. Creating buffer strips, limiting lawn fertilizer containing phosphorus, and using chloride alternatives for winter de-icing will help maintain the quality of Lake Wildwood. Nutrients will lead to algae blooms and abundant aquatic plants. To the extent possible, steps should be taken to reduce the impacts caused by run-off from the watershed. It is recommended the use of best management practices be implemented to reduce run-off and promote infiltration.

4.3.5 Development of a Lake Management Plan

A lake management plan is an essential tool that guides management decisions. A properly written plan will bring together all stakeholders to identify the concerns regarding the lake and sets realistic goals, objectives, and actions. The plan will identify the necessary funds and personnel to execute the actions. Finally, the plan can be changed over time as lake issues or management techniques change.

5 References

Becker, G. C. 1983. Fishes of Wisconsin. University of Wisconsin Press, Madison.

Murphy, B. R., D. W. Willis. 1996. Fisheries Techniques, Second Edition. American Fisheries Society, Bethesda, MD.

Smith, P. W. 1979. The Fishes of Illinois. University of Illinois Press, Urbana, IL.

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Tables

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Table 1. Fish Stocking History of Lake Wildwood, 2017 – 2019

Year	Species				
	Northern Pike	Tiger Muskie	Black Crappie	Yellow Perch	Walleye
2017	180	100		180	
2018	180	100	1670	2200	910
2019	180	100		180	
Totals	**540**	**300**	**1670**	**2560**	**910**

Table 2. Total Number and Percent Composition of Fish Species Collected in 2020

Family	Common Name	Scientific Name	Total	%
Catostomidae	Quillback	Carpiodes cyprinus	2	0.2%
Centrarchidae	Black Crappie	*Pomoxis nigromaculatus*	2	0.2%
	Bluegill	*Lepomis macrochirus*	61	6.6%
	Bluegill x Green Sunfish	*Lepomis macrochirus x cyanellus*	1	0.1%
	Green Sunfish	*Lepomis cyanellus*	17	1.8%
	Largemouth Bass	*Micropterus salmoides*	249	26.9%
	Smallmouth Bass	*Micropterus dolomieu*	44	4.8%
	White Crappie	*Pomoxis annularis*	40	4.3%
Clupeidae	Gizzard Shad	*Dorosoma cepedianum*	461	49.9%
Cyprinidae	Bluntnose Minnow	*Pimephales notatus*	11	1.2%
	Common Carp	*Cyprinus carpio*	7	0.8%
	Emerald Shiner	*Notropis atherinoides*	2	0.2%
	Spotfin Shiner	*Cyprinella spiloptera*	3	0.3%
Ictaluridae	Flathead Catfish	*Pylodictis olivaris*	5	0.5%
Percidae	Yellow Perch	*Perca flavescens*	5	0.0%
Sciaenidae	Freshwater Drum	*Aplodinotus grunniens*	14	0.0%
		Total	**924**	**100.0%**

Table 3. Game Fish Zones Catch per Unit Effort.

Gamefish Zones CPUE Common Name	Total	Pedal Time (min)	Pedal Time (hr)	CPUE (fish/hr)
Flathead Catfish	5	161	2.7	1.9
Freshwater Drum	11	161	2.7	4.1
Largemouth Bass	197	161	2.7	73.4
Quillback	2	161	2.7	0.7
Smallmouth Bass	33	161	2.7	12.3
White Crappie	17	161	2.7	6.3
Yellow Perch	3	161	2.7	1.1

Table 4. All Species Zones Catch per Unit Effort.

All Species Zones CPUE Common Name	Total	Pedal Time (min)	Pedal Time (hr)	CPUE (fish/hr)
Black Crappie	2	51	0.9	2.4
Bluegill	61	51	0.9	71.8
Bluegill x Green Sunfish	1	51	0.9	1.2
Bluntnose Minnow	11	51	0.9	12.9
Common Carp	7	51	0.9	8.2
Emerald Shiner	2	51	0.9	2.4
Freshwater Drum	3	51	0.9	3.5
Gizzard Shad	461	32	0.5	864.4
Green Sunfish	17	51	0.9	20.0
Largemouth Bass	52	51	0.9	61.2
Smallmouth Bass	11	51	0.9	12.9
Spotfin Shiner	3	51	0.9	3.5
White Crappie	23	51	0.9	27.1
Yellow Perch	2	51	0.9	2.4

Table 5. All Zones Combined Catch per Unit Effort.

CPUE All Zones Common Name	Total	Pedal Time (min)	Pedal Time (hr)	CPUE (fish/hr)
Black Crappie	2	51	0.9	2.4
Bluegill	61	51	0.9	71.8
Bluegill x Green Sunfish	1	51	0.9	1.2
Bluntnose Minnow	11	51	0.9	12.9
Common Carp	7	51	0.9	8.2
Emerald Shiner	2	51	0.9	2.4
Flathead Catfish	5	212	3.5	1.4
Freshwater Drum	14	212	3.5	4.0
Gizzard Shad	461	32	0.5	864.4
Green Sunfish	17	51	0.9	20.0
Largemouth Bass	249	212	3.5	70.5
Quillback	2	212	3.5	0.6
Smallmouth Bass	44	212	3.5	12.5
Spotfin Shiner	3	51	0.9	3.5
White Crappie	40	212	3.5	11.3
Yellow Perch	5	212	3.5	1.4

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Figures

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Figure 1. Lake Wildwood Electrofishing Zones.

Figure 2. Population Indices for Largemouth Bass Collected in 2020.

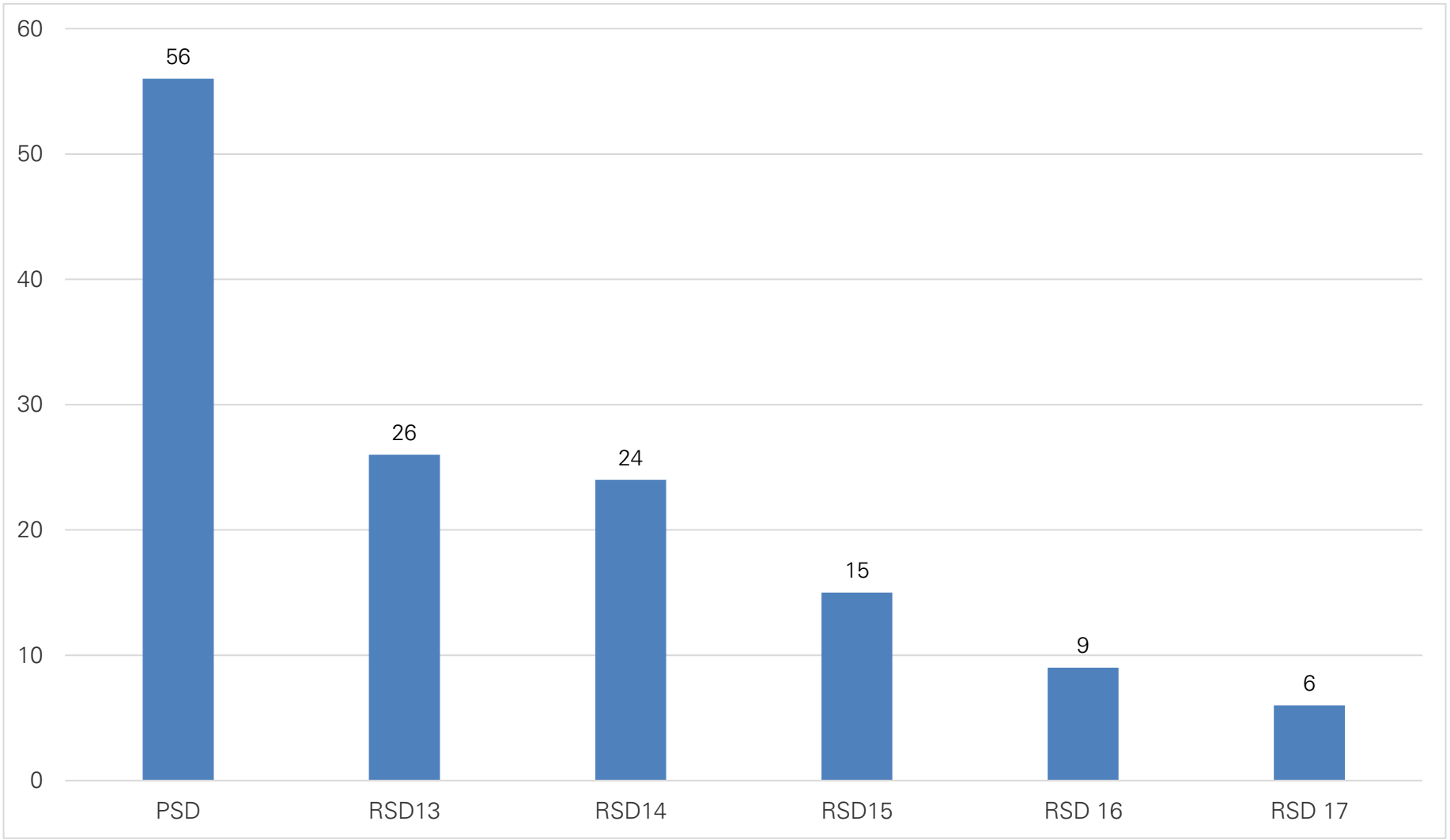


Figure 3. Length Distribution of Largemouth Bass Greater than 6 inches Collected in 2020.

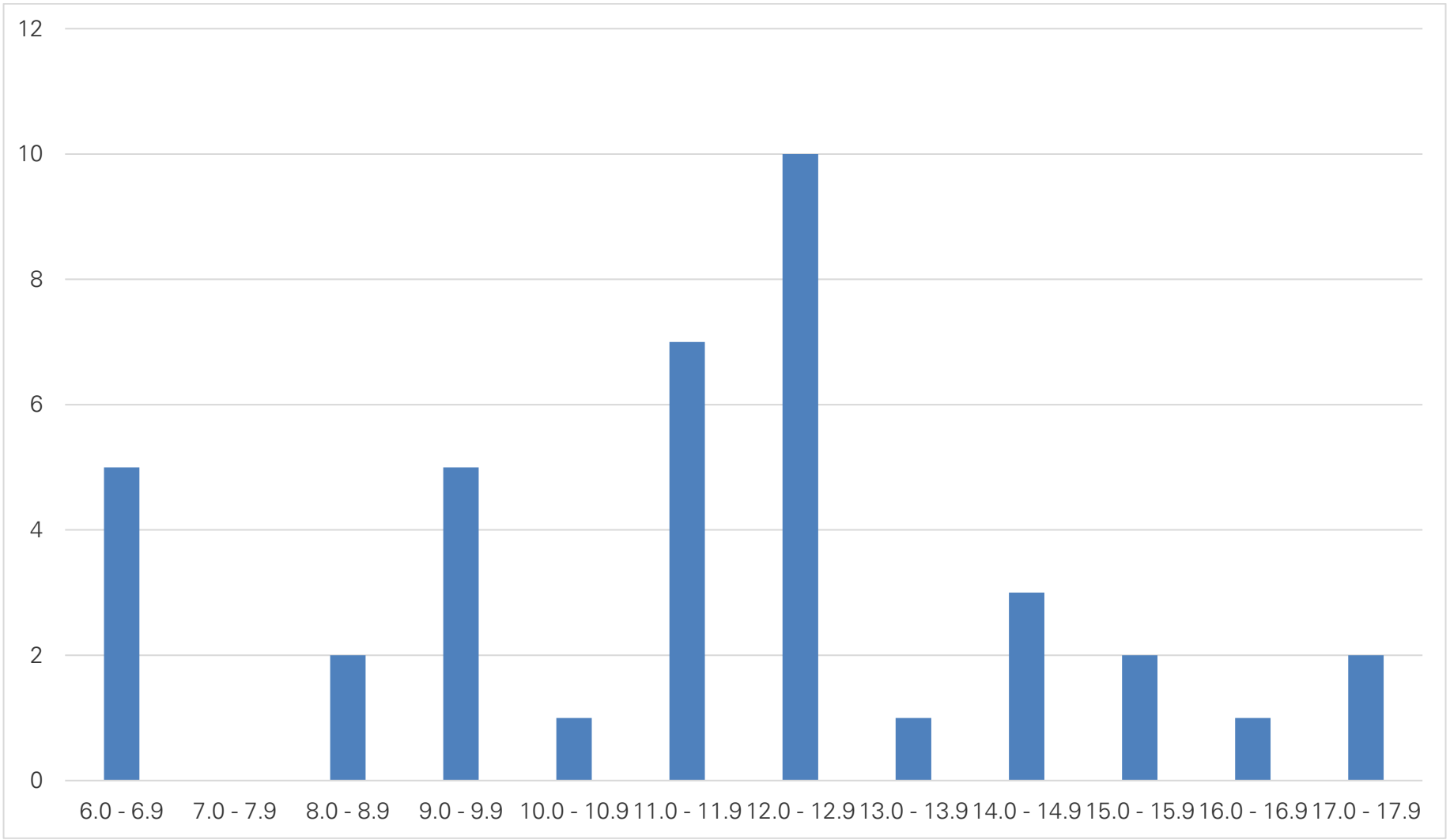


Figure 4. Length Distribution of all Largemouth Bass Collected in 2020.

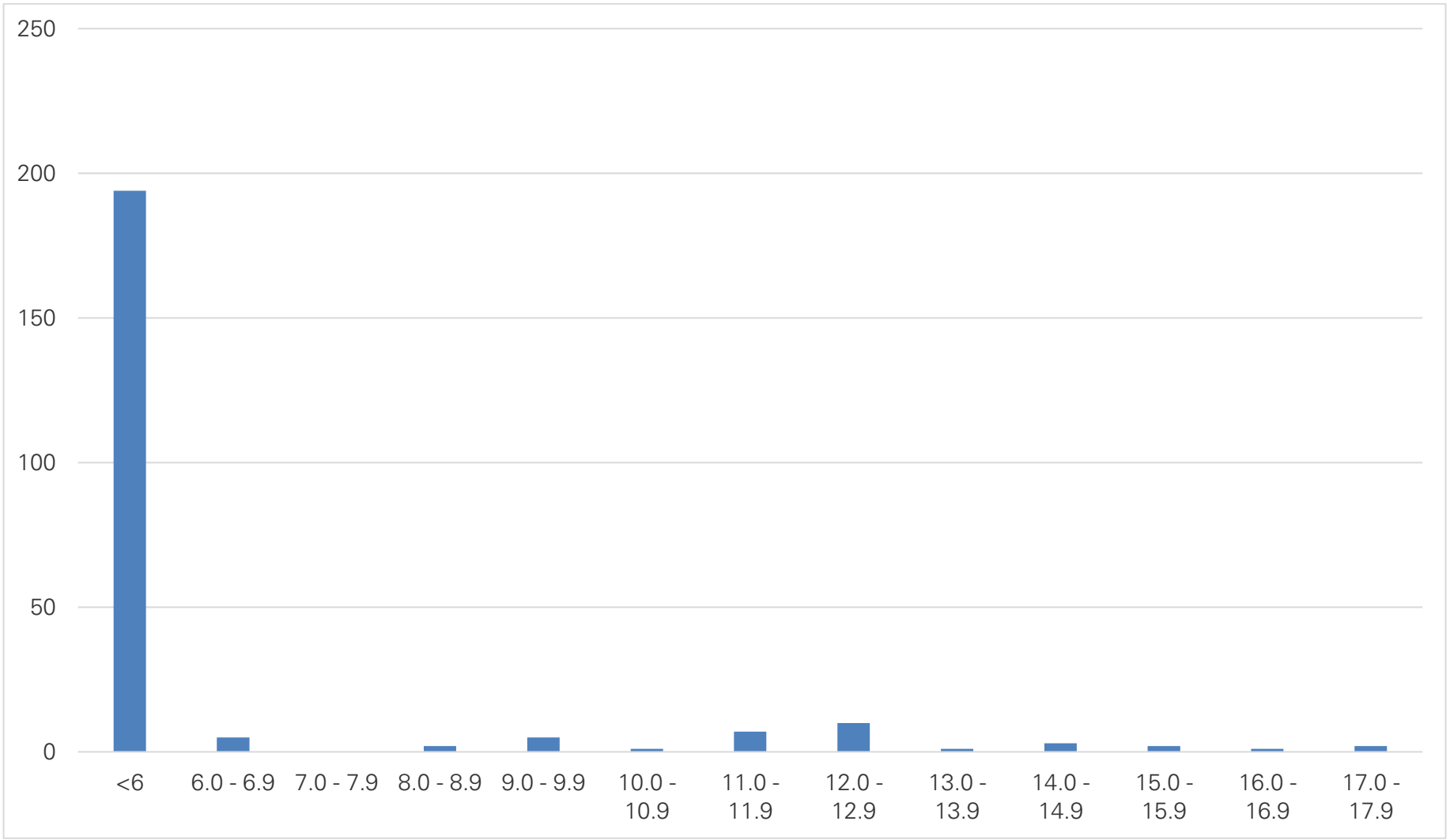


Figure 5. Population Indices for Smallmouth Bass Collected in 2020.

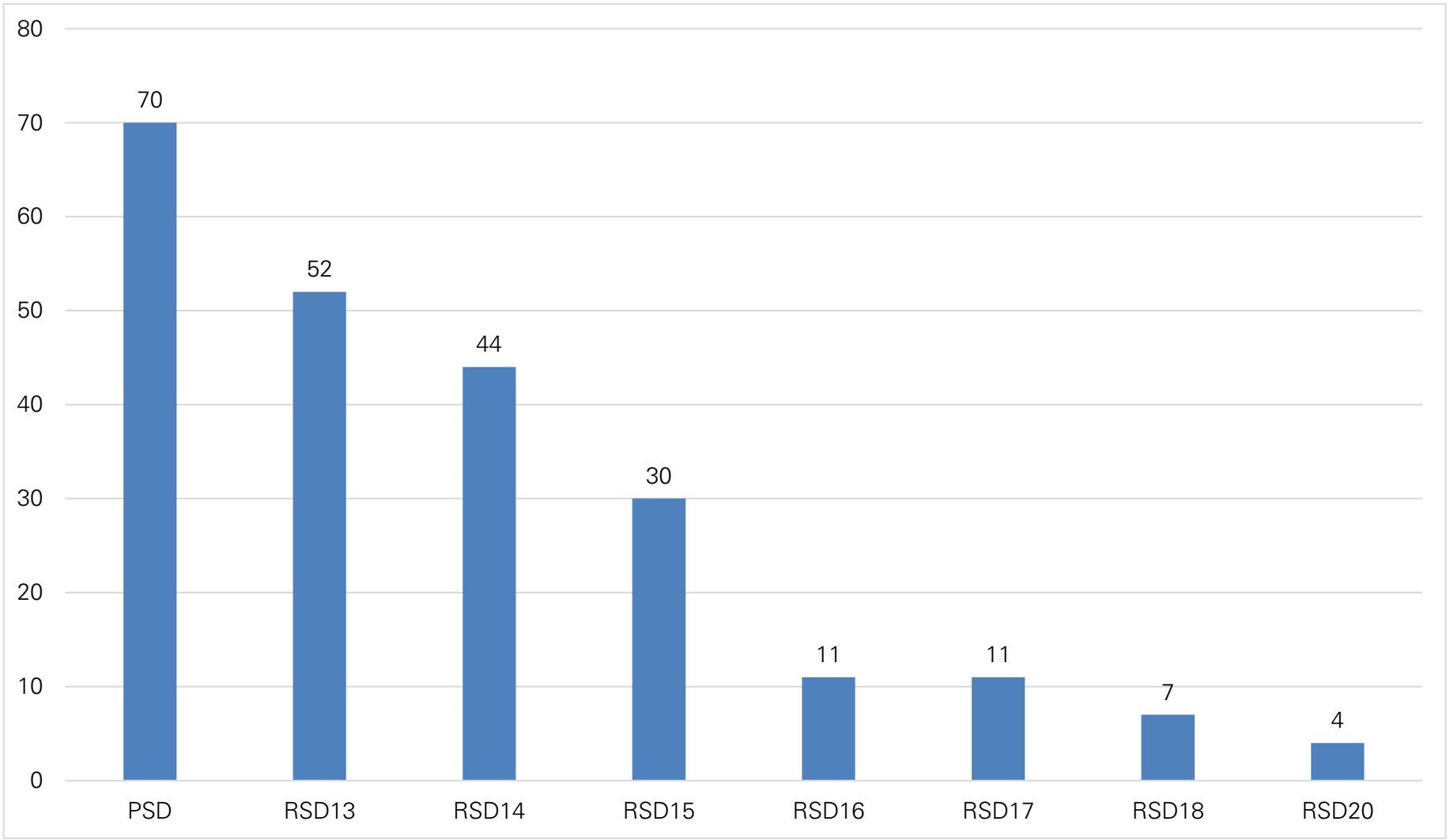


Figure 6. Length Distribution of Smallmouth Bass Collected in 2020.

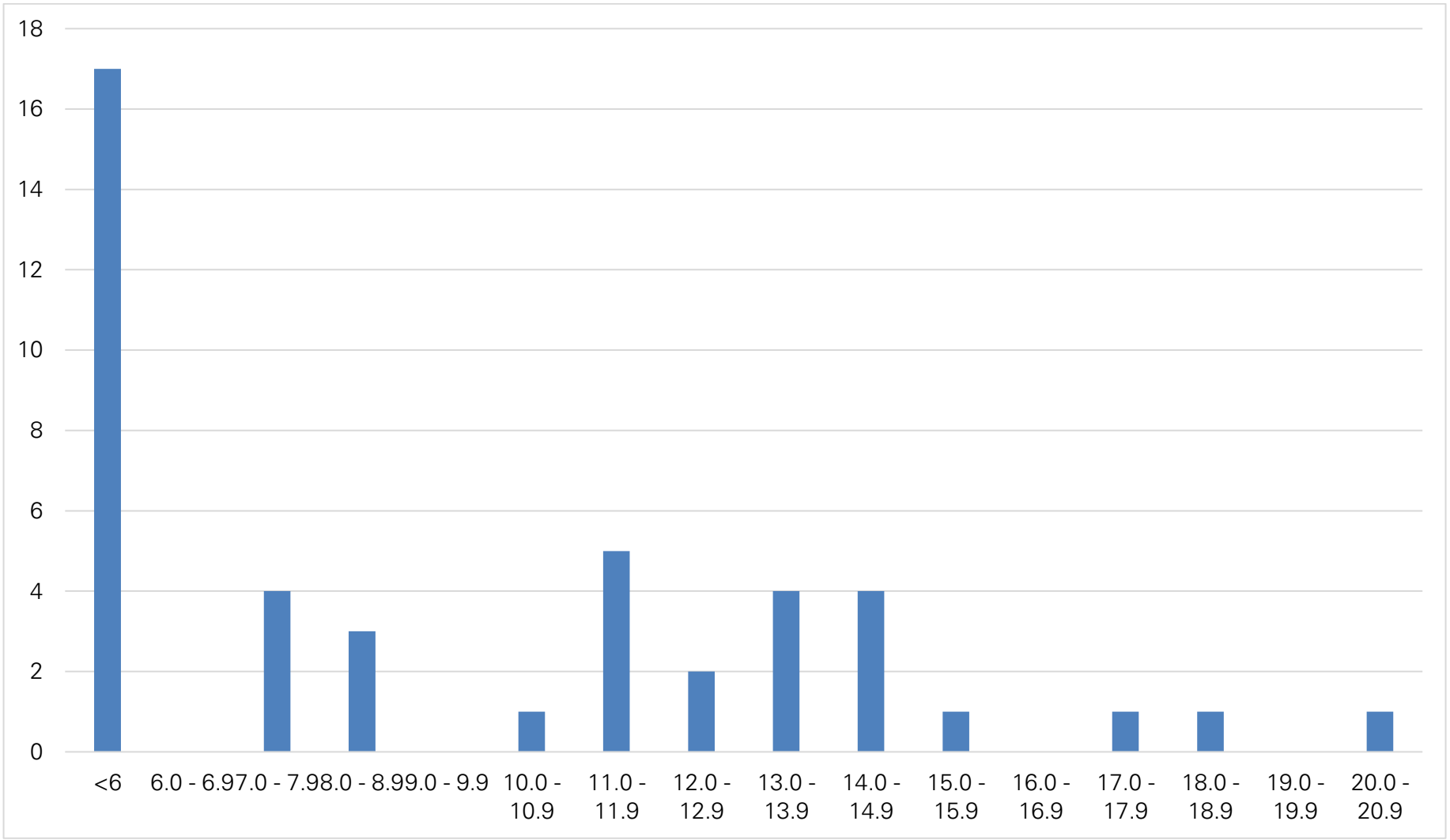


Figure 7. Length Distribution of Bluegill Collected in 2020.

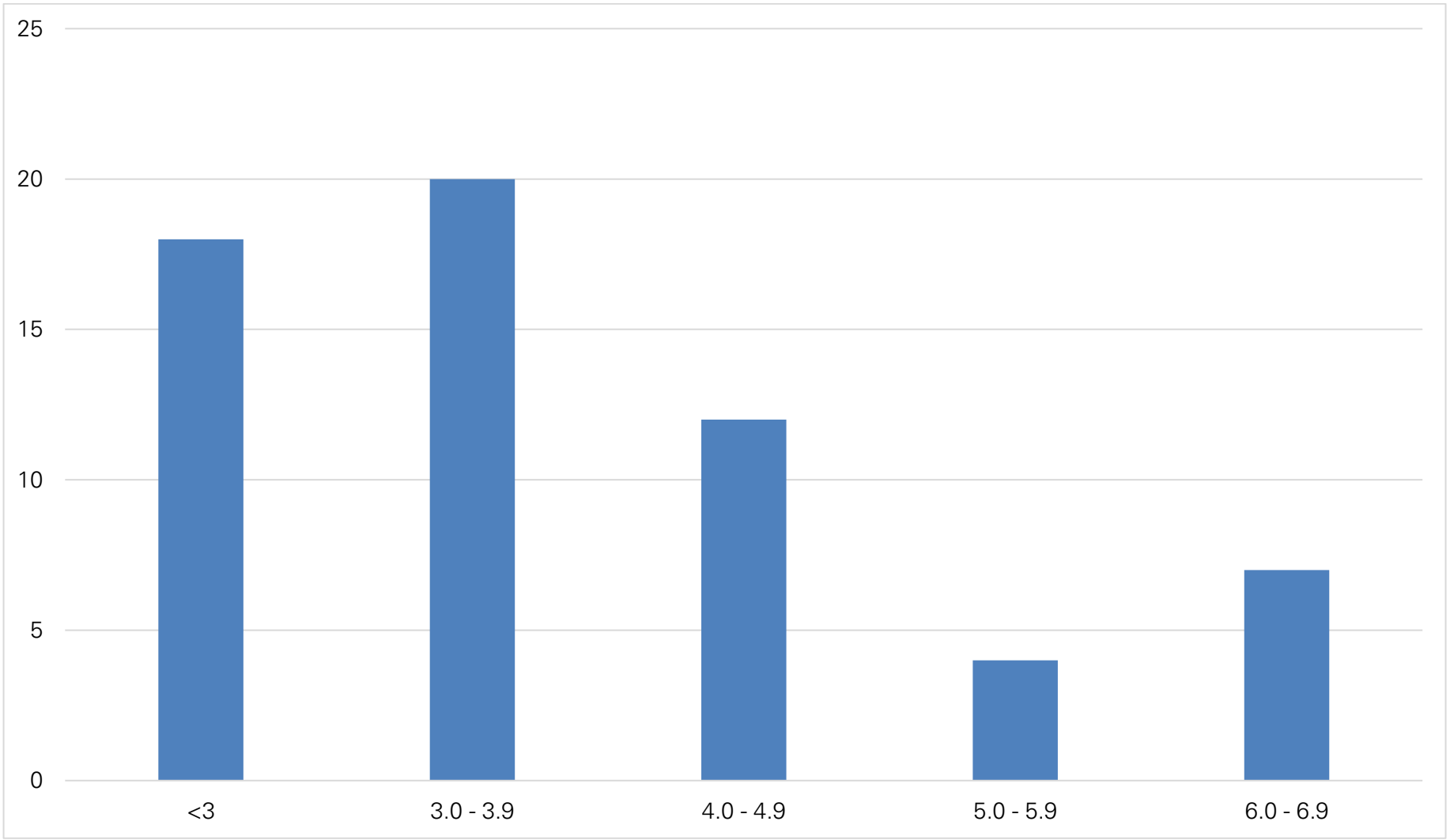


Figure 8. Population Indices for Crappie Collected in 2020.

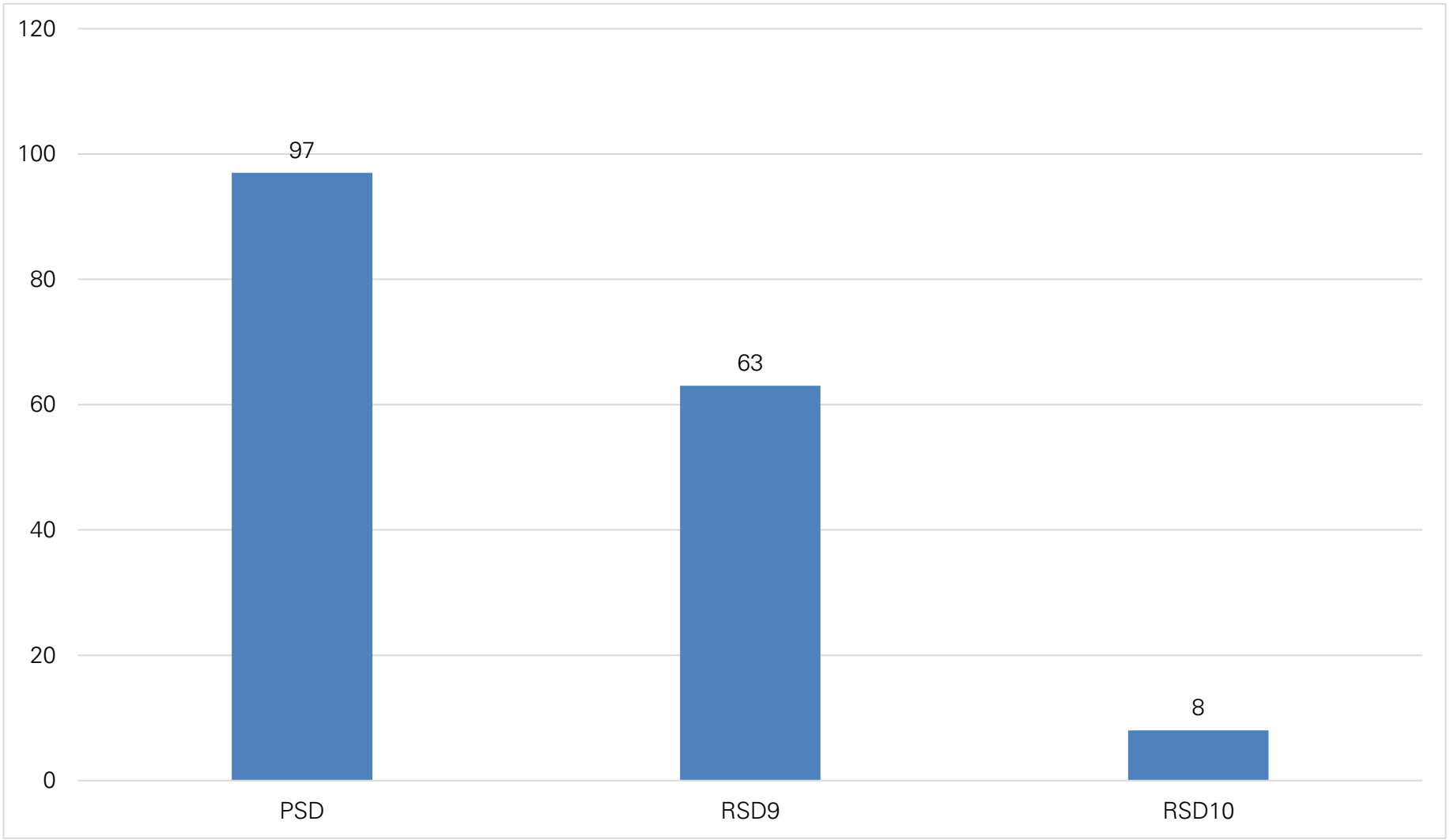


Figure 9. Length Distribution of Crappie Collected in 2020.

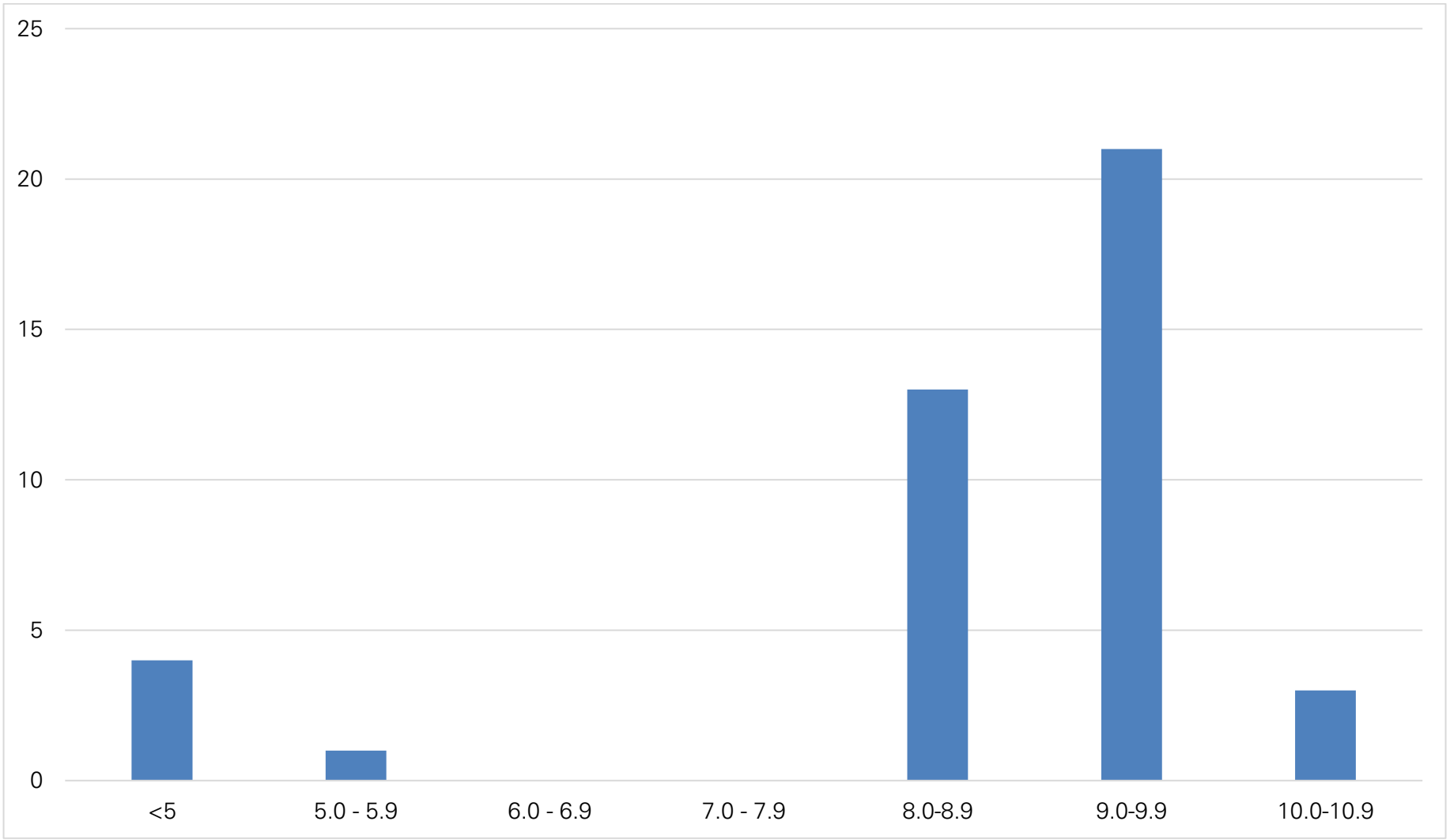
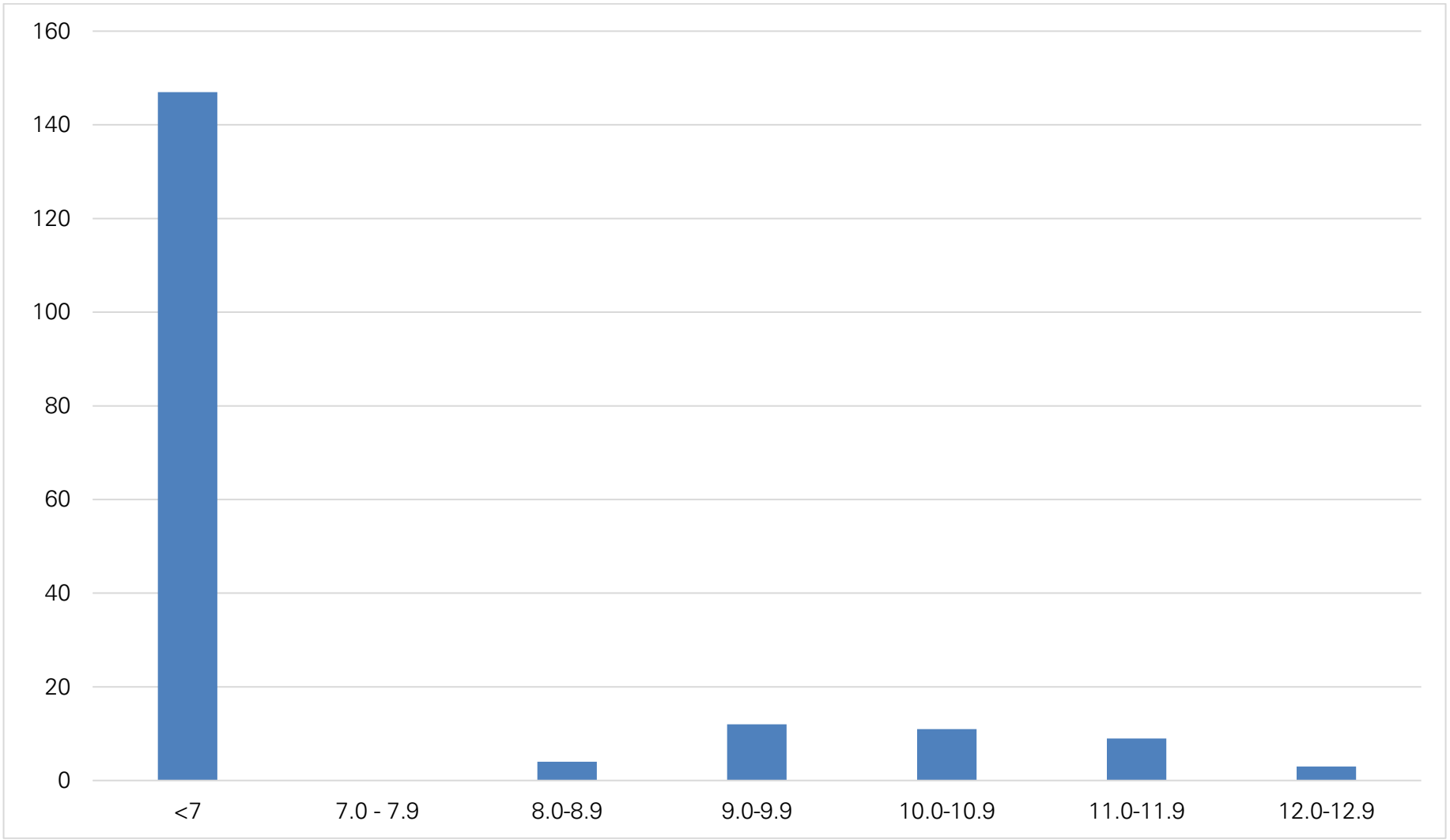


Figure 10. Length Distribution of Gizzard Shad Collected in 2020.



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