

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Comprehensive Fishery Survey of Cox Hollow Lake

Iowa County, Wisconsin 2022



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Executive Summary

The Wisconsin Department of Natural Resources (DNR) conducted a comprehensive survey of Cox Hollow Lake in 2022. The primary focus of this survey was to estimate the abundance and size structure of the walleye population and assess the relative abundance and size structure of other gamefish and panfish populations in the lake.

Spring surveys estimated the walleye population at 3.4 fish per acre >15 inches with a catch rate of 4.4 per net night. Yellow perch catch rates were high during spring netting surveys, capturing 602 fish (7.53 per net night). Largemouth bass were also high in abundance, capturing 305 fish (128.2 fish per mile) during spring electrofishing surveys. Bluegill catch rates were much lower in 2022, capturing 161 fish per mile, a decrease from 570 per mile in 2016. Lastly, 47 black crappies were captured during spring electrofishing surveys at a rate of 19.8 fish per mile.

The Cox Hollow Lake fishery is diverse, but overall dominated by centrarchids. This fishery features abundant bluegill and largemouth bass populations and a moderate walleye fishery. Management actions will include a continuation of stocking efforts for walleye to maintain current densities. Given the high abundance of largemouth bass, the no minimum size limit and daily bag limit of five is appropriate, and no change is recommended. The special regulation on bluegill should also be retained to manage for the high size structure population in Cox Hollow Lake.

LAKE AND LOCATION

Cox Hollow Lake, Iowa County
T6N, R3E Sections 10,11

PHYSICAL/CHEMICAL ATTRIBUTES

- Morphometry: 81 acres, maximum depth 28 feet
- Watershed: Mill Creek
- Lake type: Drainage, impoundment of Mill Creek
- Water clarity: Clear
- Littoral substrate: Sand, gravel, rock, muck
- Trophic status: Eutrophic
- Invasive species: Chinese Mystery Snail, Curly-Leaf Pondweed
- Winterkill: Infrequent
- Boat landings: One public boat landing is available
- Other features: Cox Hollow Lake is located within Governor Dodge State Park. One boat launch is located on the lake and multiple opportunities for shore fishing exist. One public beach is also available. Only electric trolling motors are allowed on Cox Hollow Lake.

PURPOSE OF SURVEY

Baseline lake survey Tier 1 assessment.

DATES OF FIELDWORK

SN1 fyke net surveys conducted April 4 through April 14, 2022.

Electrofishing surveys conducted April 14, 2022 (SE 1), May 11, 2022 (SE2) and Oct. 13, 2022 (FE).

FISHERY

The Cox Hollow Lake fishery consists mainly of bluegill, black crappie, largemouth bass, walleye and yellow perch.

Introduction

Cox Hollow Lake is an 81-acre impoundment located in Iowa County, Wisconsin that was created in 1958. Cox Hollow Lake is a eutrophic drainage lake with a maximum depth of 28 feet. The main inlet to Cox Hollow Lake is Mill Creek, but other unnamed tributaries also contribute to the waterbody. One dam regulates the waterbody on the northeast side of the lake and flows out to Twin Valley Lake below.

The lake has a number of gamefish, including bluegill (*Lepomis macrochirus*), black crappie (*Pomoxis nigromachulatus*), pumpkinseed (*Lepomis gibbosus*), green sunfish (*Lepomis cyanellus*), yellow perch (*Perca flavescens*), largemouth bass (*Micropterus Salmoides*) and walleye (*Sander vitreus*). Common non-game and forage fish include white sucker (*Catostomus commersoni*) and brown bullhead (*Ameiurus nebulosus*). Invasive species are also present in Cox Hollow Lake and include the Chinese mystery snail (*Bellamy chinensis*) and curly-leaf pondweed (*Potamogeton crispus*).

Angling regulations include three special regulations (Table 1). Walleyes, saugers and any hybrids must be a minimum length of 18 inches with a daily bag limit of three. Bass of any length may be kept, with a daily bag limit of five. Panfish are also managed under a special regulation with a daily bag limit of 10.

A variety of surveys have been completed on Cox Hollow Lake since its creation. These include general surveys, baseline monitoring surveys, special regulation evaluations, as well as spring and fall standardized fishery assessments. This is the third comprehensive fishery survey conducted on Cox Hollow Lake and the first comprehensive fishery survey report. The primary objectives of the survey were to assess the walleye, bass and panfish populations.

Management of the fishery in Cox Hollow has varied over the years. Gamefish were managed under the statewide regulations up until 1997 when the 18-inch minimum length limit and daily bag limit of three was implemented for walleyes. This was enacted to improve the size structure of the population and manage quality fishing opportunities. In 2000, a 10-bag daily limit was placed on panfish to provide a high size structure panfish fishery focused on bluegill, black crappie and yellow perch. In 2013, a daily bag limit of five with no minimum length limit regulation was implemented for all bass species. This regulation was enacted to reduce densities, thereby increasing growth and size structure while providing harvest opportunities for anglers. Fisheries staff also install fish refuges in the spring every year. These locations are designated by rope and buoys, starting on the third Monday in May and removed 19 days later. No fishing is allowed within 100 feet of the shore where the rope and buoys are located.

Stocking has been common practice in Cox Hollow Lake since its construction in 1958. Since 1972, a variety of game and non-game fish, including rainbow trout, channel catfish, northern pike, yellow perch, smallmouth bass, black crappie, green sunfish,

golden shiner, lake chubsucker, black bullheads, fathead minnows and white suckers have been stocked. However, recent stocking events have focused mainly on walleye (Table 2). Walleyes are typically stocked as large fingerlings at approximately 10 fish per acre (~815 fish), although in 2011, 74,500 fry were also stocked (Table 2).

A lake habitat project was conducted on Cox Hollow Lake in 1987. This consisted of installing fish “cribs” during the winter. These were constructed of trees pulled through large concrete culvert tubes approximately four feet long and two feet in diameter. These structures were dumbbell in shape and roughly 50 feet x 25 feet x 10 feet. Overall, 77 cribs were scattered across the lakebed, where total depths exceeded 10 feet. These tend to be very popular locations to fish among anglers because they attract panfish and result in fishing “hotspots” throughout the lake, making these fish easier to catch and more vulnerable to harvest.

Methods

Spring sampling began in early April 2022 following standard DNR spring netting (SN1) procedures listed in the DNR fish management handbook (Simonson 2015). Between April 4 and April 14, 10 net lifts were conducted at eight netting locations for 80 net-nights to capture, measure and mark adult walleyes to estimate abundance. All walleyes that could be visually sexed as mature individuals or were greater than 15 inches were marked with a top caudal fin clip. Fyke nets (2 feet x 6 feet, $\frac{3}{4}$ -inch bar mesh, 3 feet x 6 feet, $\frac{3}{4}$ -inch bar mesh and 4 feet x 6 feet, $\frac{3}{4}$ -inch bar mesh) were set at ice-out and lifted daily. Nets were set in locations that have been previously determined as successful capture locations (Figure 1). Immediately after fyke netting was completed, a single, entire shoreline, night boomshocker electrofishing survey was conducted on April 14 (SE1) to recapture walleyes to estimate abundance.

Following both the SN1 and SE1 surveys, we conducted a spring electrofishing (SE2) survey targeting centrarchids. The primary objective for this survey was to collect and measure bass and panfish. An entire shoreline night boomshocker electrofishing survey was conducted on May 11. Two bass/panfish stations were sampled, and all centrarchids were collected (Figure 2). For the remainder of the entire shoreline survey, only bass were collected. One boat operator and two experienced technicians, using $\frac{3}{8}$ -inch mesh dip nets, conducted the surveys. A minimum of 100 panfish from each species were dipped from the tub and measured. Spines were also collected from a minimum of five fish per $\frac{1}{2}$ inch length bin, per species, for aging analysis.

A fall electrofishing survey (FE) was also conducted on Cox Hollow Lake in 2022. The objective of this survey was to assess fall/juvenile walleyes recruiting to the population. On Oct. 13, an entire shoreline nighttime electrofishing survey was completed. All walleye and largemouth bass were collected to calculate catch per effort (CPE).

POPULATION ASSESSMENT

DNR staff conducted an initial fyke net survey to mark walleyes. After this initial netting period, a spring electrofishing recapture event was also conducted. The objective of this recapture run was to collect previously marked walleyes to estimate abundance using Chapman's modification of the Peterson mark-recapture estimator (Ricker 1975):

$$N = \frac{(M+1)(C+1)}{(R+1)} - 1,$$

where C = number of walleyes captured in the electrofishing sample, M = number of walleyes marked during fyke netting, R = number of marked walleyes observed in the electrofishing sample. During the fyke net surveys, walleye spines were collected at a minimum of ten structures per 1-inch length bin for aging analysis. For all other species where population estimates could not be conducted, CPE in terms of the number of fish per mile was calculated.

Aging analysis was conducted for structures collected during the spring fyke netting and electrofishing events. All structures were placed in individual scale envelopes to identify individual fish. Once dried, fin rays were embedded in epoxy, cross-sectioned using a low-speed diamond blade saw, sanded with 1000-grit sandpaper and, if necessary, polished to achieve maximum clarity. Spines were dried, cut near the base, sanded to achieve maximum clarity and illuminated with a fiber optic light. Two readers then aged each structure until an age was agreed upon. If a discrepancy existed, a third reader was called upon to assist in age agreement.

The size structure and growth rates of individual species were also described. Mean length at age was computed based on the lengths of individual fish for each species sampled and compared to statewide averages to determine relative growth rates. Individual fish from each species that had weights associated with lengths were used to calculate relative weights (W_r) using methods provided by Anderson and Neumann (1996). Age length keys were used to assign ages and assess the age structure of the entire sampled population from a subsample of aged fish. Fish within the subsample were assigned an age at their length. These ages were then extrapolated and applied to unaged fish in the whole sample based on the proportion of ages at each length, using 0.5-inch length bins.

Results

Summary of total catch and catch rates for gamefish sampled during 2022 surveys:

Survey Type	BLUEGILL	BLACK CRAPPIE	LARGEMOUTH BASS	YELLOW PERCH	WALLEYE
	TOTAL CATCH				
Spring Netting 1 (SN1)	710	63	25	602	352
Spring Electrofishing 1 (SE1)			23		80
Spring Electrofishing 2 (SE2)	382	47	305		
Fall Electrofishing (FE)			333		46

CATCH PER EFFORT (CPE)					
SN1 (number/net night)	8.88	0.79	0.31	7.53	4.4
SE1 (number/mile)			7.7		26.7
SE2 (number/mile)	160.6	19.8	128.2		
FE (number/mile)			144.8		20

SPRING FYKE-NETTING AND SPRING ELECTROFISHING 1

WALLEYE

A total of 222 adult (sexually mature) walleyes were marked during the SN1 surveys and 47 walleyes were recaptured during the SE1 survey. These numbers are down slightly from the last survey in 2016, where 282 individual fish were marked during the fyke net surveys. This translates to a current estimated adult walleye population of 315 fish (3.9 per acre), with 95% CIs [274, 381] and a CV of 7.8. Population estimates were also calculated for walleyes over 15 inches, as well as walleyes greater than the minimum harvest size of 18 inches. These estimates came out to 275 fish (3.4 per acre) with 95% CIs [231, 350] and 111 fish (1.4 per acre) with 95% CIs [73, 233], respectively. The length of individual walleyes captured during spring netting surveys ranged from 7.2 to 26.6 inches, with an average of 17.0 (SD = 3.4; Figure 3). Female walleyes, to no surprise, had a greater mean length averaging 20.7 inches, compared to 15.6 inches for males. When sex could be determined, males were sampled with a greater proportion, sampling 66% males compared to 34% females. Growth rates were generally below the statewide average according to mean length at ages (Figure 4; Table 3). Both male and female walleyes from ages 7-9 dominated the population, with steep declines beyond, likely an effect of harvest once fish reach 18 inches (Figure 5). Relative weights indicated good condition overall, with a mean relative weight of 90 (SD = 11.6; Figure 6). In fact, 85% of the population exhibited relative weights over 80 and 14% of the population was above 100 (Figure 6).

YELLOW PERCH

A total of 602 yellow perch were captured during the fyke net surveys in 2022. This translates to a CPE of 7.53 fish per net night. These fish ranged in size from 4.3 to 9.2 inches in length, with an average of 6.5 (SD = 0.95; Figure 7). When sex could be determined, males were sampled with much greater frequency, sampling 94% males and 6% females during the surveys. Growth is slow for yellow perch in Cox Hollow Lake compared to other lakes statewide (Figure 8; Table 3). Age-3 and 4 yellow perch dominated the surveys in 2022 (Figure 9). Once perch survive to age-5 with a mean length of 8 inches on average, they reach an acceptable size for harvest by anglers. Even with slow growth rates observed, relative weights are still good overall, with a mean of 88 (SD=12.7; Figure 10).

SPRING ELECTROFISHING 2

LARGEMOUTH BASS

A total of 303 largemouth bass were collected during the SE2 survey in 2022. Largemouth bass CPE during late spring electrofishing was calculated at 127.4 fish per mile, exhibiting an increase from 2016, when CPEs were calculated at 79.9 fish per mile. Cox Hollow Lake ranks high compared to other lakes in the warm-dark-complex lake classification. The median catch rate for all other lakes is 17.4 fish per mile, with the 75th percentile at 37.3 fish per mile. The average length of fish captured was 12.3 (SD = 2.9) inches, ranging from 6.1 to 21.0 inches (Figure 11). The growth of largemouth bass is slightly above the statewide average up until age 6, when growth begins to

slow and increase in variability (Figure 12; Table 3). The age-3 year-classes dominated the fishery with other age classes relatively even across the board (Figure 13). Largemouth bass were also in good condition overall, with a mean relative weight of 93 (SD = 10.1; Figure 14). In fact, 93% of the population exhibited relative weights over 80 and 24% of the population above 100.

BLUEGILL

A total of 383 bluegill were sampled during the late spring electrofishing surveys in Cox Hollow Lake, where CPE was calculated at 372 fish per mile. This was a major decrease from 2016, when the catch rate of bluegill was 570 fish per mile. Cox Hollow Lake still ranks high compared to other lakes in the warm-dark-complex lake classification. Median catch rates for all other lakes is 117 fish per mile, with the 75th percentile coming in at 196 fish per mile. The mean length of all sampled bluegills averaged 7.03 (SD = 1.08) inches, with a minimum of 2.7 inches and a maximum of 9.4 inches (Figure 15). Bluegill showed excellent growth rates in Cox Hollow Lake, reaching 7 inches by age-4 on average (Figure 16; Table 3). Age-3 bluegill, at approximately 5.3 inches on average, dominated the fishery (Figure 17). Bluegills were also in excellent condition overall with a mean relative weight of 100 (SD = 8.9; Figure 18). Overall, 89% of the individuals sampled exhibited relative weights over 80 and 19% were above 100.

OTHER PANFISH

Black crappies and pumpkinseeds were also surveyed during the late spring electrofishing surveys. A total of 47 black crappies were captured, an increase from the nine fish surveyed in 2016. Fish ranged from 6.8-10.7 inches, with an average length of 8.6 (SD = 0.9) inches (Figure 19). The growth of black crappie is also high in Cox Hollow Lake, averaging 8.2 inches by age 2 and 9.8 inches by age 3 (Figure 20; Table 3). These age classes also dominated the population in 2022 (Figure 21). A total of 50 pumpkinseeds were also sampled in 2022. The mean length was 6.9 (SD = 0.5) inches, with a minimum of 5.8 and a maximum of 7.8 inches (Figure 22).

FALL ELECTROFISHING

YOUNG-OF-YEAR WALLEYE

The catch rate of young-of-year (YOY) walleye was zero fish per mile. This is typical of Cox Hollow Lake, which does not have any documented natural reproduction.

Discussion

Despite the small size of Cox Hollow Lake, the fishery is abundant and productive, especially for bluegill and bass. These species drive the fishery in Cox Hollow Lake and represent the main angler targets within the lake. Walleye are also present; however, they are not as productive and abundant as the others. This is likely due to competition with other predators, such as largemouth bass, who tend to be more aggressive and may out-compete walleye populations when they coexist, depending

on the habitat. The habitat is also diverse for an 81-acre lake, with over 2.5 miles of undeveloped shoreline, a healthy aquatic plant community and fish cribs located throughout the system. Few water quality issues exist in Cox Hollow Lake, as it's in the upper reaches of the Mill Creek Watershed surrounded by Governor Dodge State Park. The productive centrarchid fishery, sinuous shoreline habitat and good water quality make Cox Hollow Lake an excellent waterbody for recreation.

The walleye fishery is dependent on DNR stocking in Cox Hollow Lake, and stocking will likely continue for the foreseeable future. These stocking events occur on odd years at a rate of 10 fish per acre. This is evident in the ages observed during analysis, where only fish of odd ages were observed in the samples. Walleye in Cox Hollow Lake are managed for quality fishing opportunities, and therefore, maintaining this population and growth above and beyond 15 inches is crucial for its success. However, slow growth rates have been the standard for walleye over the years. On average, a walleye in Cox Hollow Lake will need to survive to be eight years old for an angler to harvest, although this trend may be improving; younger fish surveyed tend to be more aligned with the statewide growth rates before slowing down once they reach six or seven years old. It's likely that the faster-growing fish become vulnerable to harvest by the age of six, leaving the older, slower-growing individuals to remain in the population. This could also be a result of competition between other predators, such as largemouth bass, which are found in high abundance in Cox Hollow Lake. The current population of walleye above 15 inches is 3.4 per acre, which is a manageable density given the number and abundance of other species present. At this time, we will continue to manage for walleye between 2-4 fish per acre above 15 inches. However, growth rates will likely not increase without changes in the composition of other species.

Yellow perch were found in surprisingly high numbers in 2022. This is a significant change from the 2016 surveys, where only one yellow perch was captured during the spring electrofishing surveys. Perch were likely in Cox Hollow in 2016, yet surveys were conducted during temperatures that may not have been conducive for capture. The 2022 population is currently dominated by age-3 fish that will likely come into the 7-8 inch size range in 2025 and 2026. However, due to the amount of angler pressure for panfish, these numbers will likely be reduced. Overall, the perch grow slowly and often do not reach memorable or trophy sizes in Cox Hollow Lake due to its small size, relatively shallow depths and competition from other fish such as bluegill, black crappie and juvenile largemouth bass.

Largemouth bass sustained a high abundance in 2022, with catch rates above the 90th percentile for warm-dark-complex lakes statewide. This was an increase from 2016, when bass were captured at approximately 90 fish per mile, which was also above the 75th percentile. Despite this increase in relative abundance, growth and size structure remain stable, with bass growing slightly faster than the statewide average until age-6 or 7, when growth begins to slow and become more variable. The mean length of bass was 12.3 inches, an increase from 10.6 inches in 2016. Currently, the bass

population in Cox Hollow Lake is managed with a no minimum length limit and daily bag limit of five. This regulation is appropriate, as these fish have high rates of reproduction and recruitment to the fishery, with numerous fish in the 9–14-inch range representing fish from 3-5 years of age. This seems like a good balance, as the high abundance helps to reduce recruitment of bluegill, so they don't become overabundant and stunted. This regulation also helps promote the harvest of bass once anglers reach their 10-bag limit for panfish. Therefore, we will continue to manage the bass population in Cox Hollow Lake with the special regulation.

The number of bluegills sampled decreased from surveys in 2016. The size structure remained nearly identical with a mean length of 7 inches. However, we did survey slightly larger fish in 2022, with the largest bluegill measuring 9.4 inches, compared to 8.8 inches in 2016. This is a bit surprising, given the amount of fishing pressure on Cox Hollow Lake over the last three years, especially during the COVID-19 pandemic when the DNR exhibited record license sales. These fish grow relatively fast in Cox Hollow Lake, with rates above the statewide standard throughout. The population was dominated by 2-, 3- and 4-year-old fish. Once fish reach age-5 at approximately 7 inches, they become vulnerable to harvest by anglers. This was evident, considering we didn't sample any age-5 bluegills, and the relative abundance of age-6 and older fish declined dramatically. Even so, catch rates of preferred-size fish (8 inches) were excellent, exhibiting 44 fish per mile at both electrofishing stations. This is likely a result of the special regulation on Cox Hollow Lake, only allowing the harvest of 10 panfish total per day. For the most part, anglers are likely releasing fish smaller than 6.5 inches, increasing the size structure of the population and limiting overharvest in this small 81-acre impoundment. Fish refuges are also likely reducing harvest during the spawning period when bluegills are vulnerable. These refuges are in place each spring/early summer with the goal of reducing the catch/harvest of bluegills located on beds along the shoreline. Overall, the bluegill fishery in Cox Hollow Lake continues to be very successful and current management practices will be maintained.

The black crappie and pumpkinseed populations are also present in Cox Hollow Lake, exhibiting increases since the last survey in 2016. Catch rates were up for both species, with increasing size structure as well. Black crappies had two good year classes back-to-back in 2019 and 2020, producing 2- and 3-year-olds in the 2022 survey. These fish recruited to the fishery and made up the highest percentage of this species captured. Pumpkinseeds also increased from 11 fish captured in 2016 to 50 during spring electrofishing surveys in 2022. The majority of these fish ranged from 6.5 to 7.5 inches, and a few were just shy of 8 inches. Both of these panfish species also seem to benefit from the special regulation in Cox Hollow Lake and now represent additional fish of preferred sizes that are becoming available to angler creels. Additionally, both these species provide diversity to the exceptional panfish fishery in the lake and are worth pursuing.

Management Recommendations

- 1) **Goal:** Maintain current walleye population density.
Objective: Maintain density of walleyes >15 inches at 2-4 walleyes per acre.
Strategy: Maintain stocking of walleyes at 10 large fingerlings per acre every year. Maintain the current regulation of 18-inch minimum length limit and daily bag limit of three fish.
- 2) **Goal:** Maintain a high abundance of largemouth bass.
Objective: Manage for an SE2 catch rate of 75 fish per mile or greater.
Strategy: Continue with current special regulation of no minimum length limit, five fish per day.
- 3) **Goal:** Maintain high size structure and catch rates for bluegill.
Objective: Maintain mean length >6.5 inches. Maintain >25 fish per mile catch rates of preferred-size bluegill (8 inches) during SE2 surveys.
Strategy: Continue with current special regulation of 10 panfish per day.

References

- Anderson, R. O and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 *in* B. R. Murphy and D. W. Willis, editors. Fisheries Techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.
- Ricker, W. E. 1975. Computation and interpretation of biological statistics of fish populations. Fisheries Research Board of Canada, Bulletin 191.
- Simonson, T. 2015. Surveys and Investigations – Inland Fisheries Surveys. Fish Management Handbook Chapter 510, Wisconsin Department of Natural Resources internal publication. Madison, Wisconsin.



Figure 1. 2022 spring fyke netting locations on Cox Hollow Lake.



Figure 2. Spring electrofishing 2 survey stations sampled in 2022. Red line refers to bass/panfish stations, while blue line refers to bass-only stations.

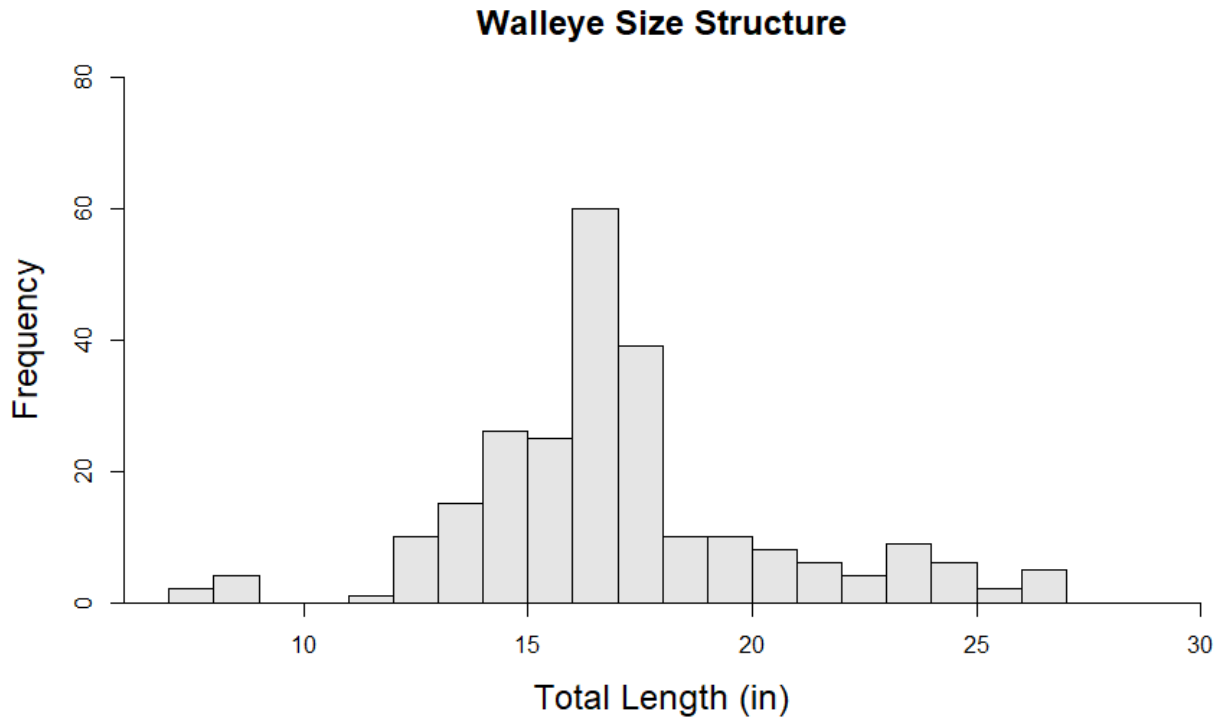


Figure 3. Walleye size structure from individual fish captured during spring fyke netting surveys.

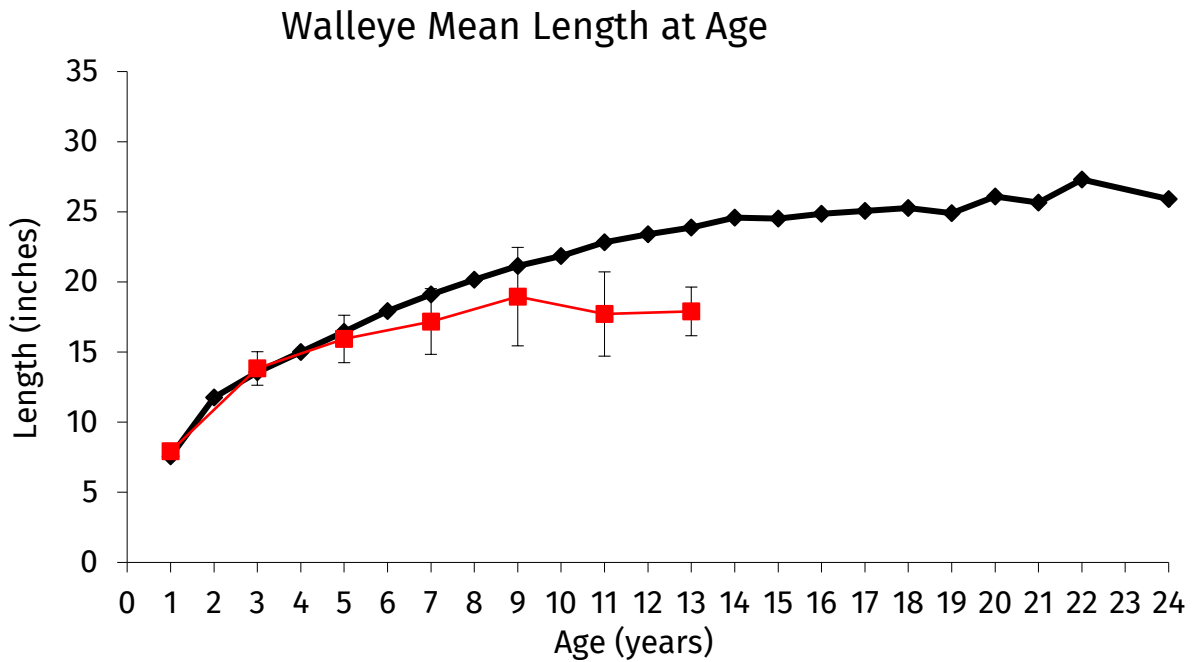


Figure 4. Walleye growth rates in comparison to statewide averages. Cox Hollow Lake values are shown in red (± 1 SD); statewide averages are shown in black.

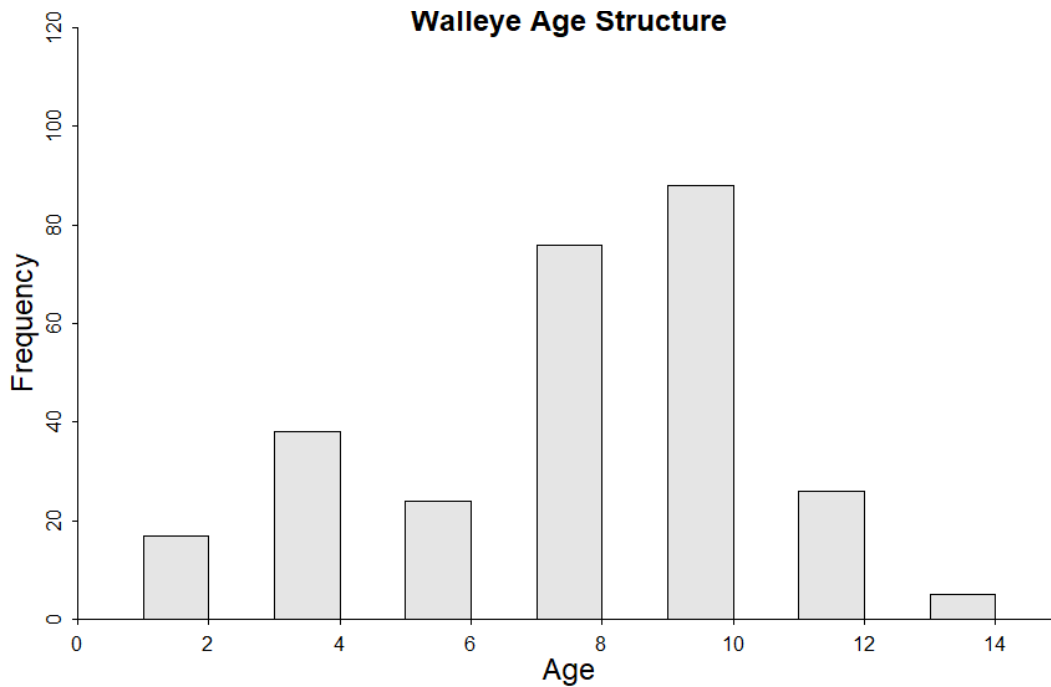


Figure 5. Age structure of all walleye collected during spring sampling in Cox Hollow Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

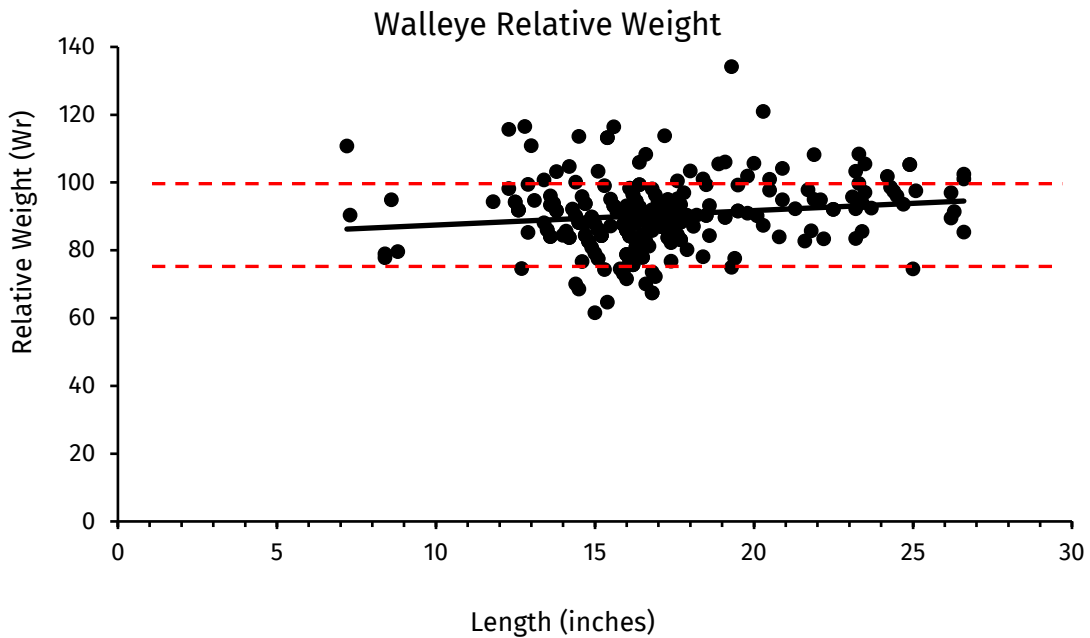


Figure 6. Relative weights of all walleye sampled during spring fyke netting surveys. Fish between 75 and 100 (designated by red dashed lines) are considered to be within the normal range.

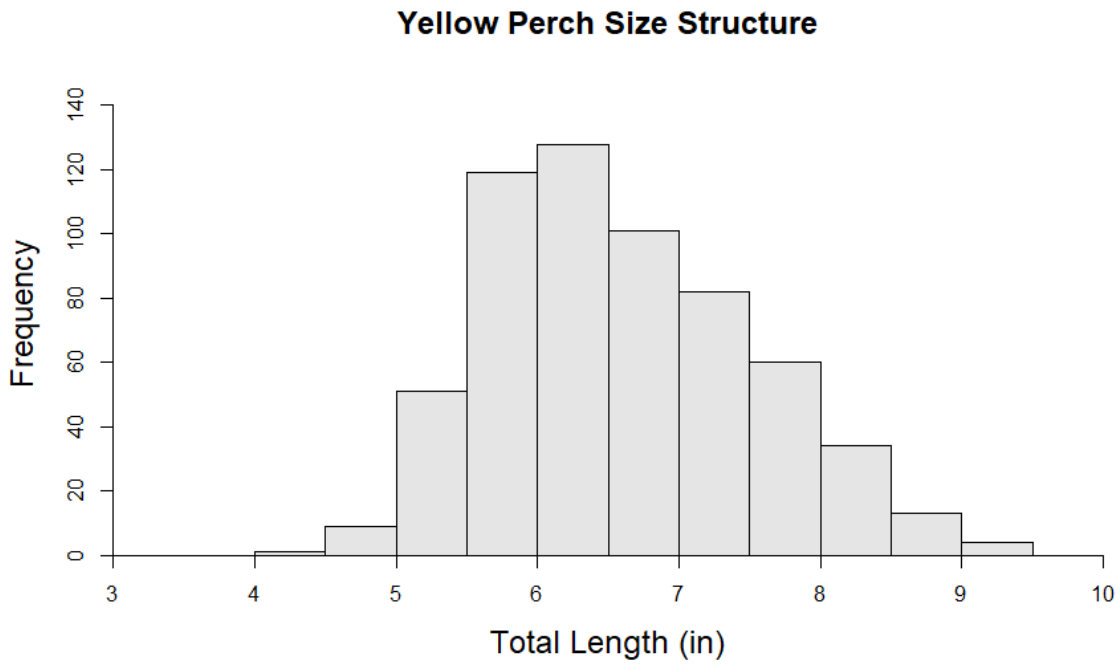


Figure 7. Yellow perch size structure from all fish captured during spring fyke netting surveys.

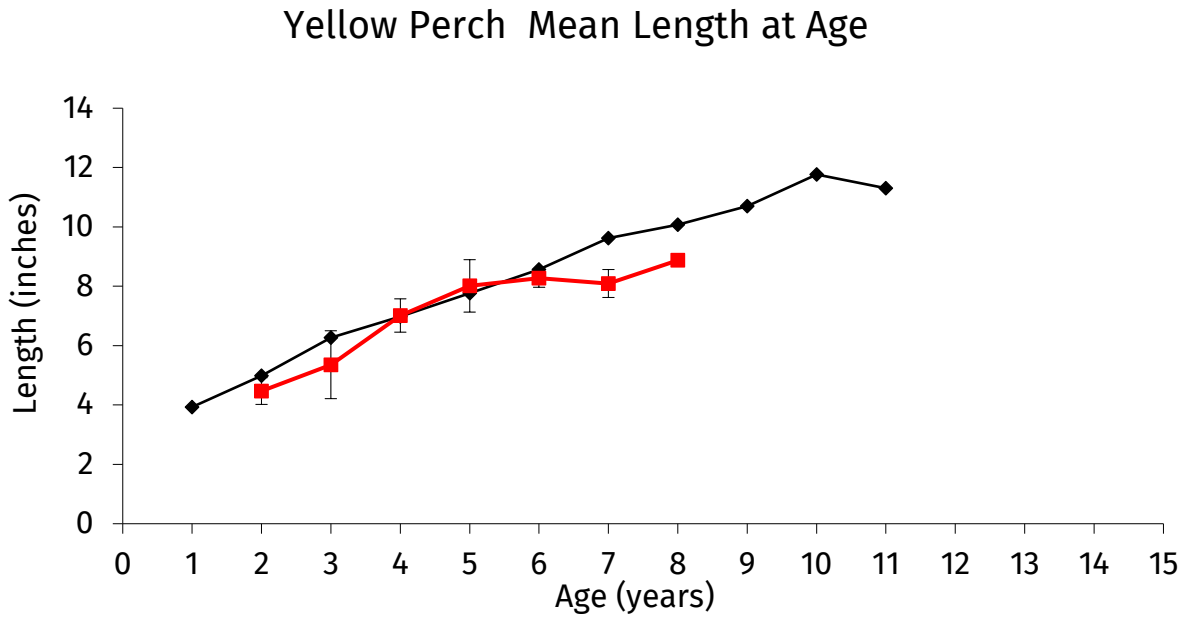


Figure 8. Yellow perch growth rates in comparison to statewide averages. Cox Hollow Lake values are shown in red (± 1 SD); statewide averages are shown in black.

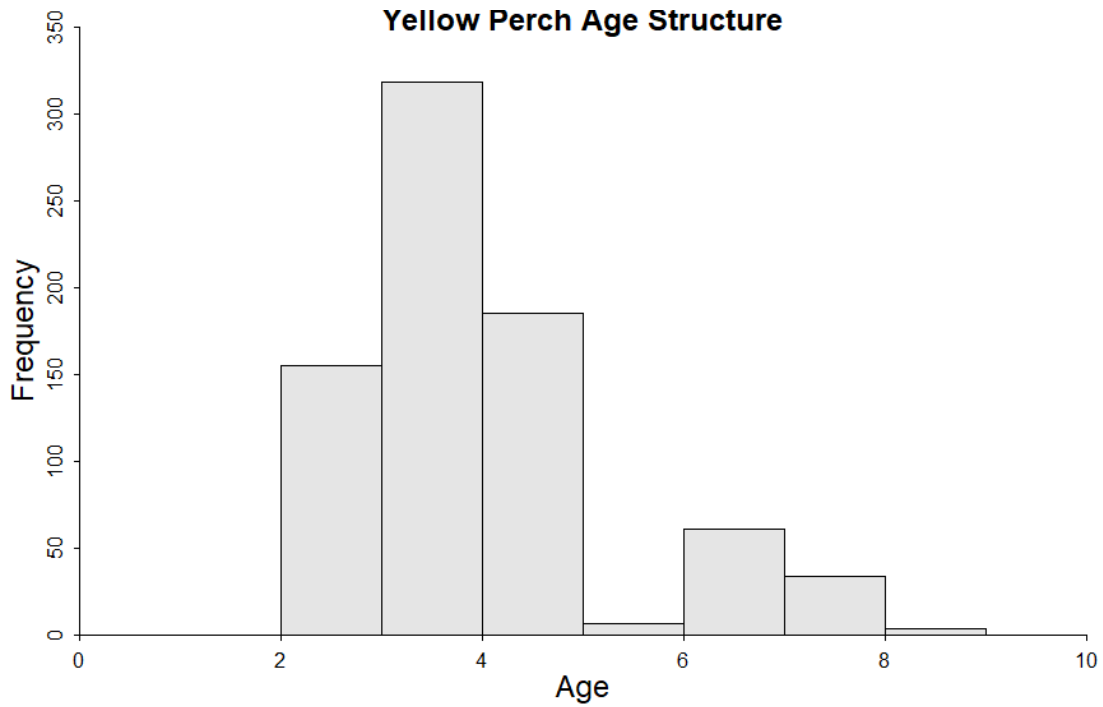


Figure 9. Age structure of yellow perch collected during spring sampling in Cox Hollow Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

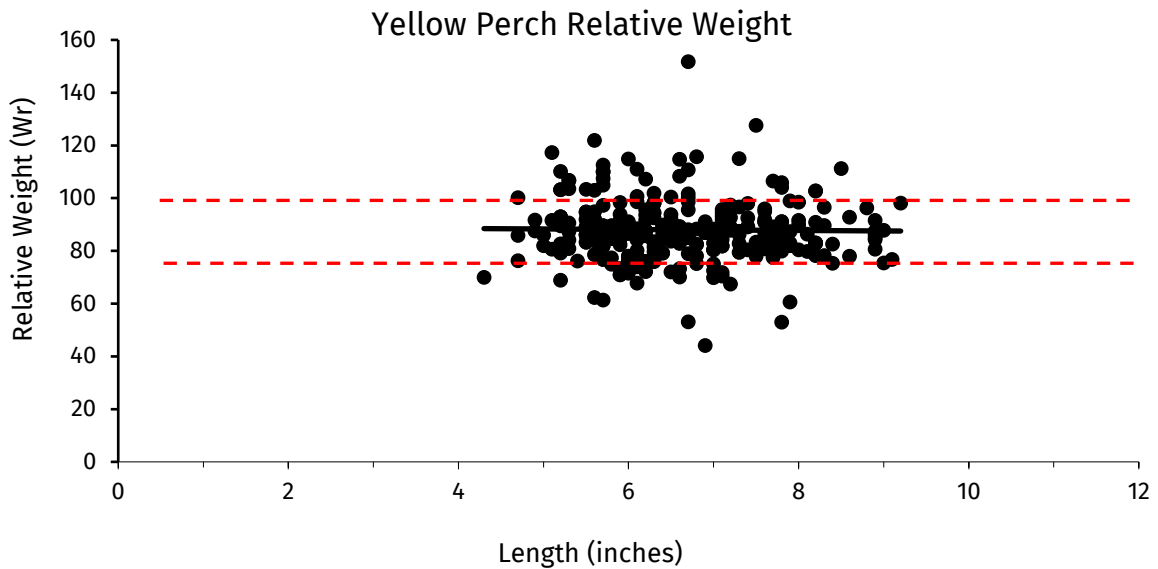


Figure 10. Relative weights of all yellow perch sampled during spring fyke netting surveys. Fish between 75 and 100 (designated by red dashed lines) are considered to be within the normal range.

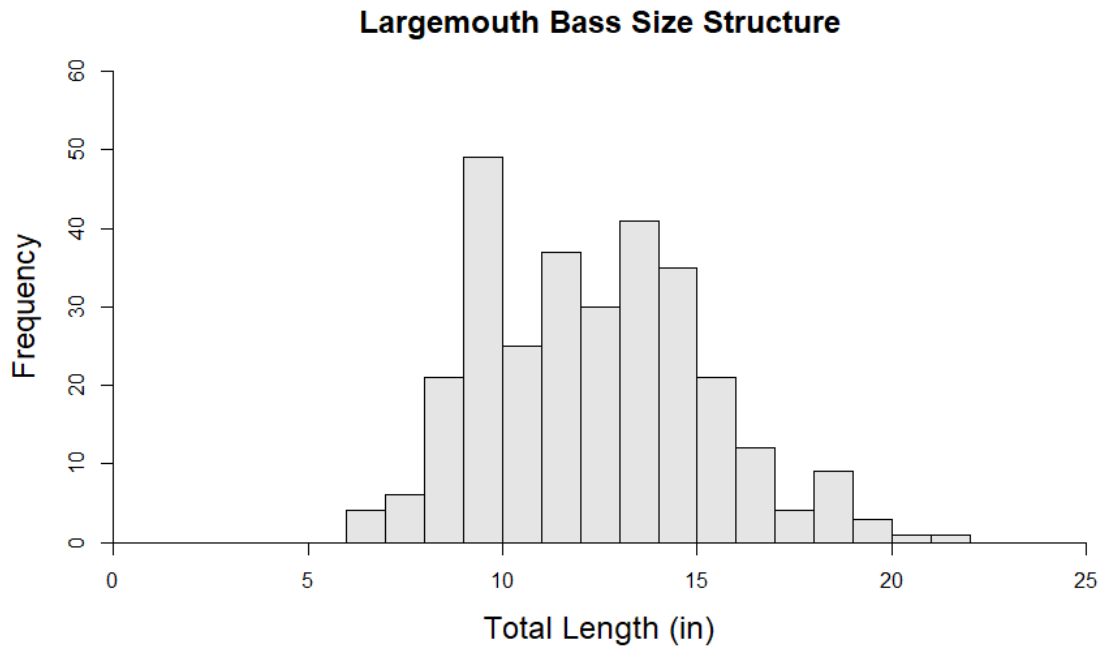


Figure 11. Largemouth bass size structure from individual fish captured during spring electrofishing surveys.

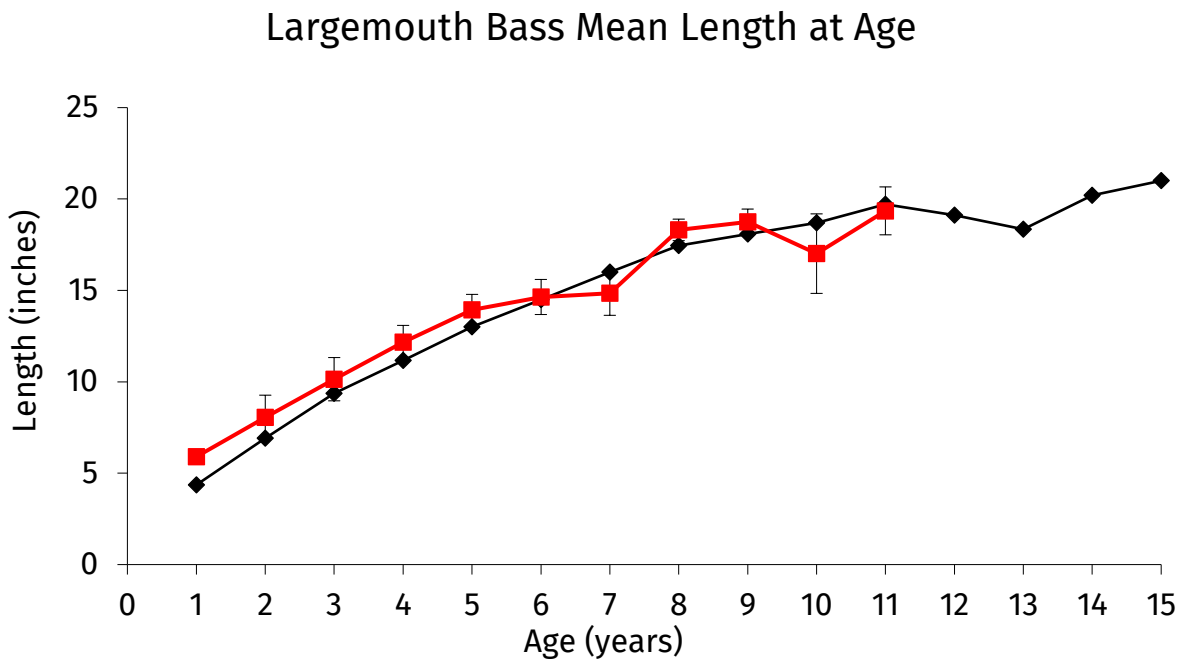


Figure 12. Largemouth bass growth rates in comparison to statewide averages. Cox Hollow Lake values are shown in red (± 1 SD); statewide averages are shown in black.

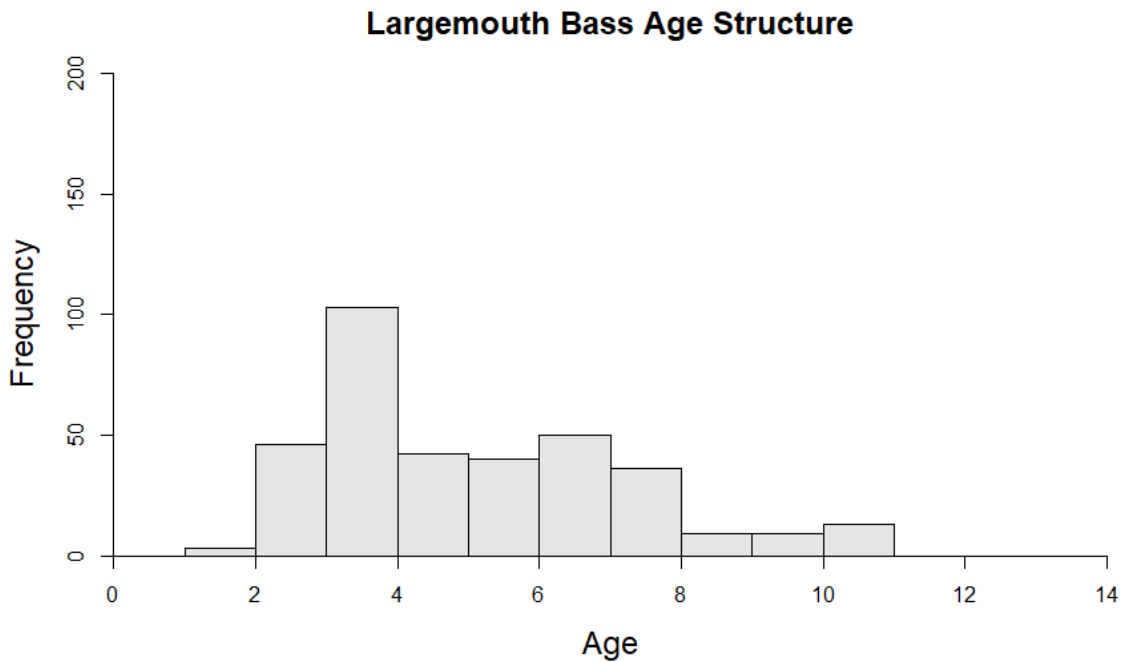


Figure 13. Age structure of largemouth bass collected during spring sampling in Cox Hollow Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

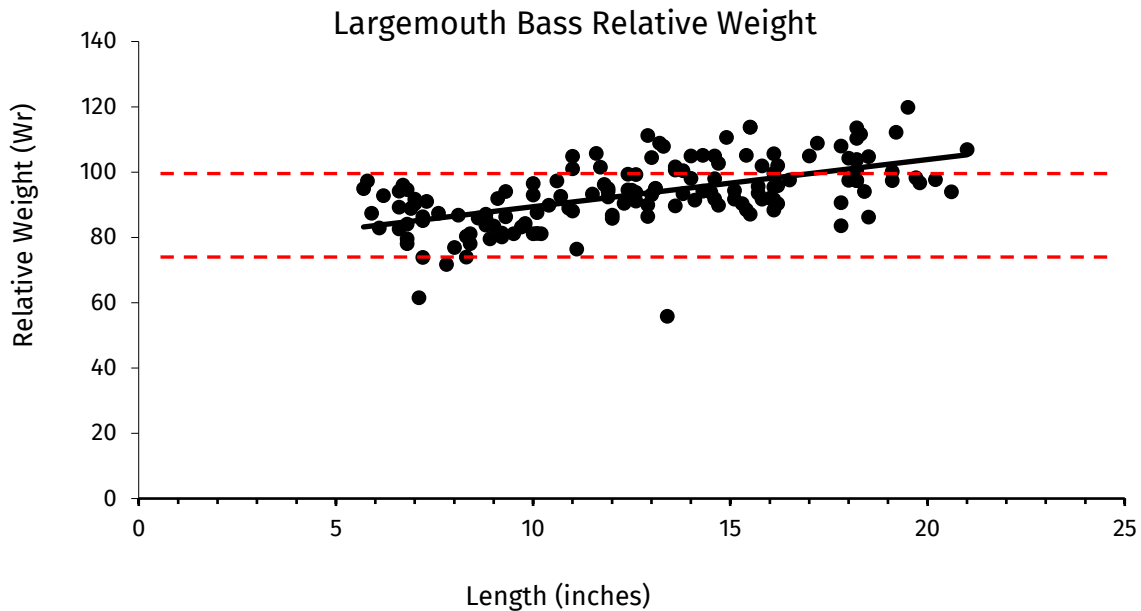


Figure 14. Relative weights of all largemouth bass sampled during spring electrofishing surveys. Fish between 75 and 100 (designated by red dashed lines) are considered to be within the normal range.

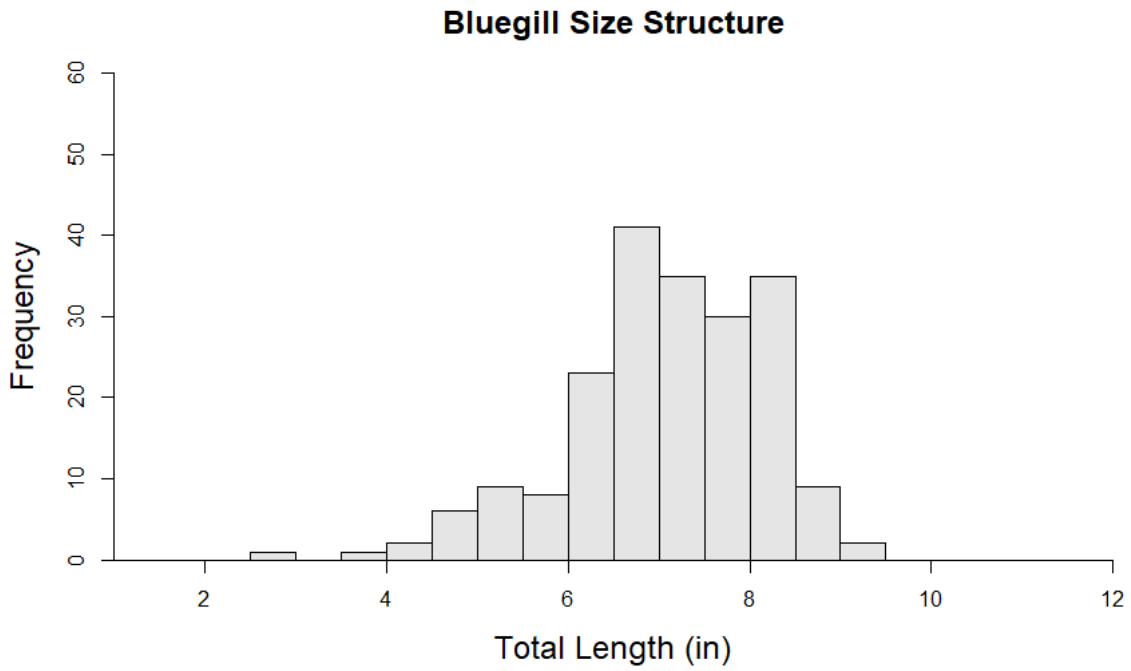


Figure 15. Bluegill size structure from individual fish captured during spring electrofishing surveys.

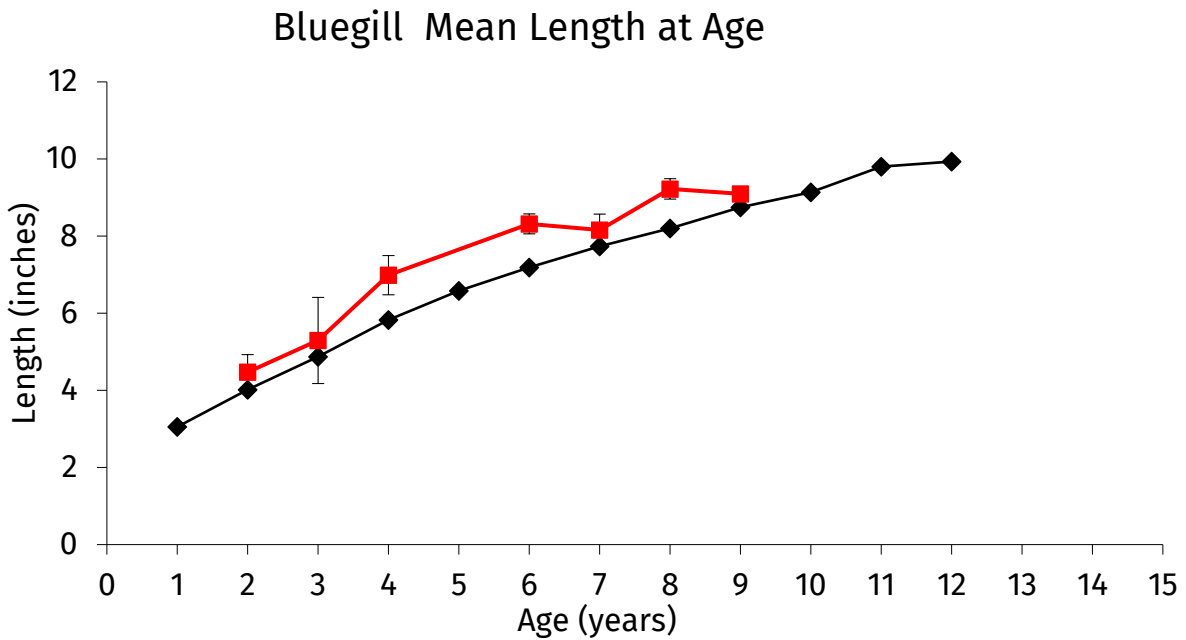


Figure 16. bluegill growth rates in comparison to statewide averages. Cox Hollow Lake values are shown in red (± 1 SD); statewide averages are shown in black.

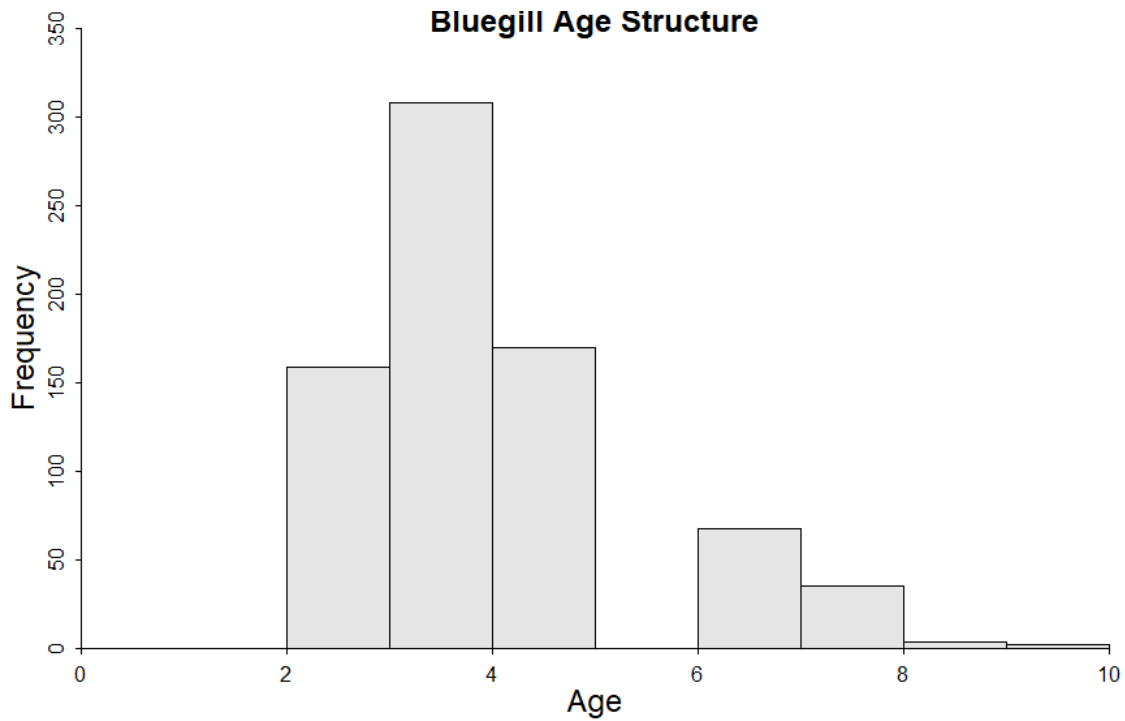


Figure 17. Age structure of bluegill collected during spring sampling in Cox Hollow Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

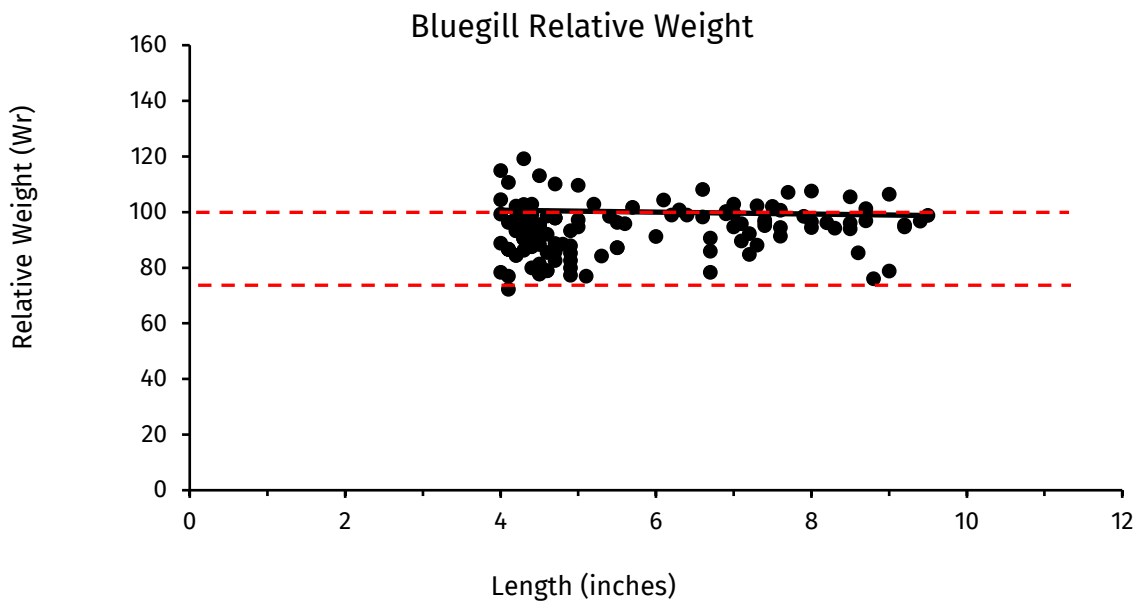


Figure 18. Relative weights of all bluegill sampled during spring electrofishing surveys. Fish between 75 and 100 (designated by red dashed lines) are considered to be within the normal range.

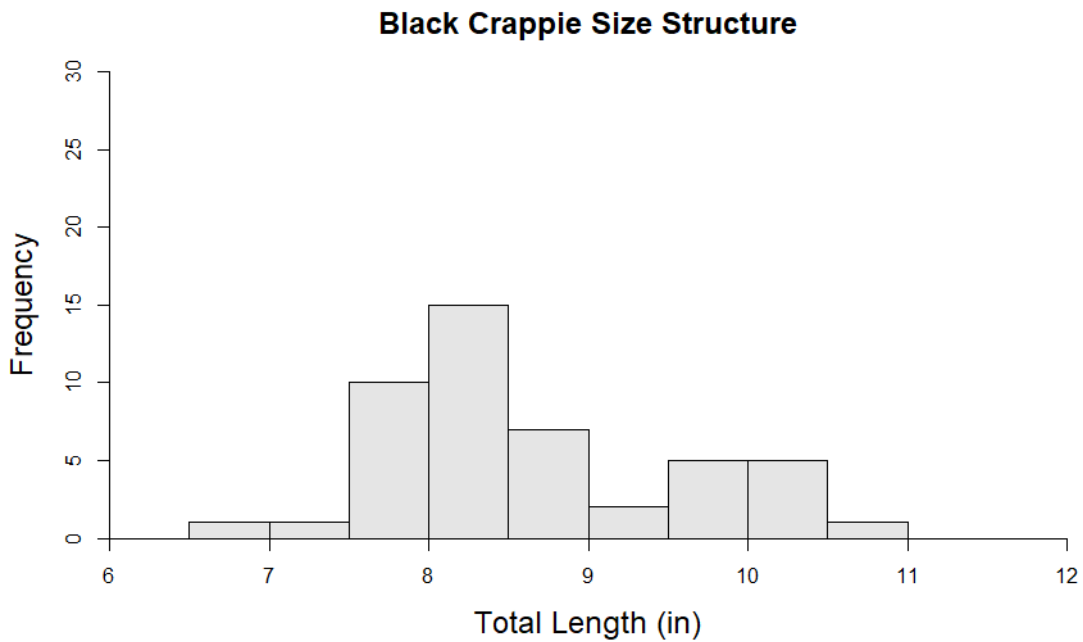


Figure 19. Black crappie size structure from individual fish captured during spring electrofishing surveys.

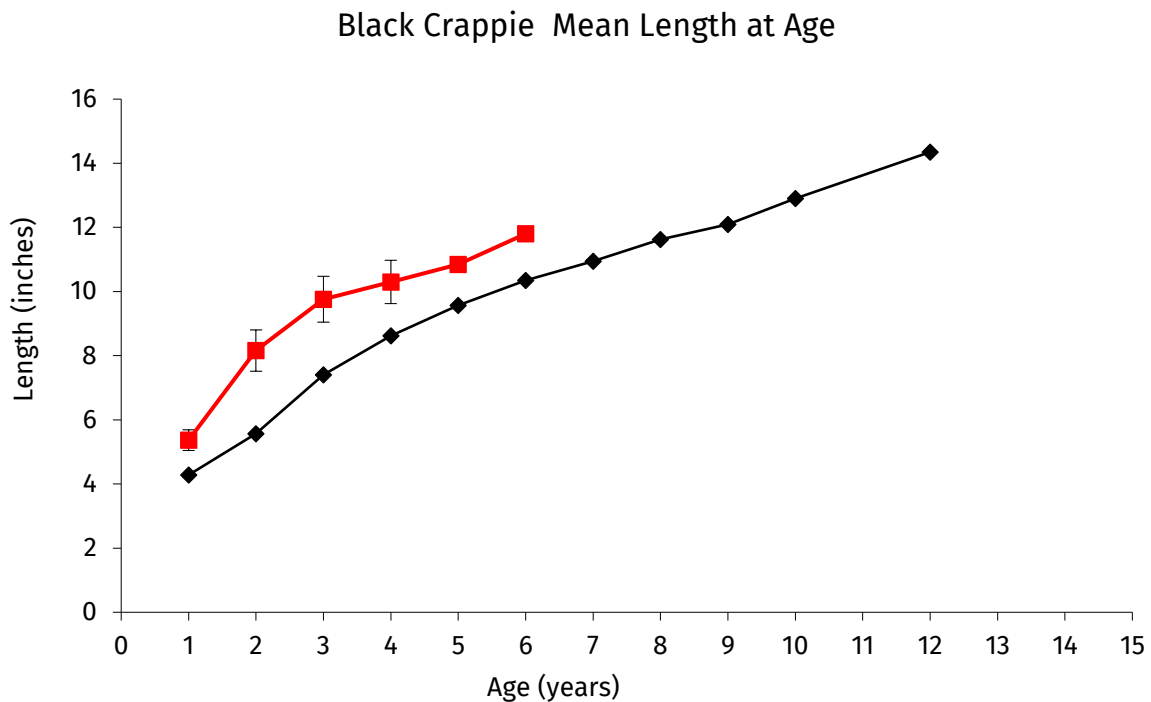


Figure 20. Black crappie growth rates in comparison to statewide averages. Cox Hollow Lake values are shown in red (± 1 SD); statewide averages are shown in black.

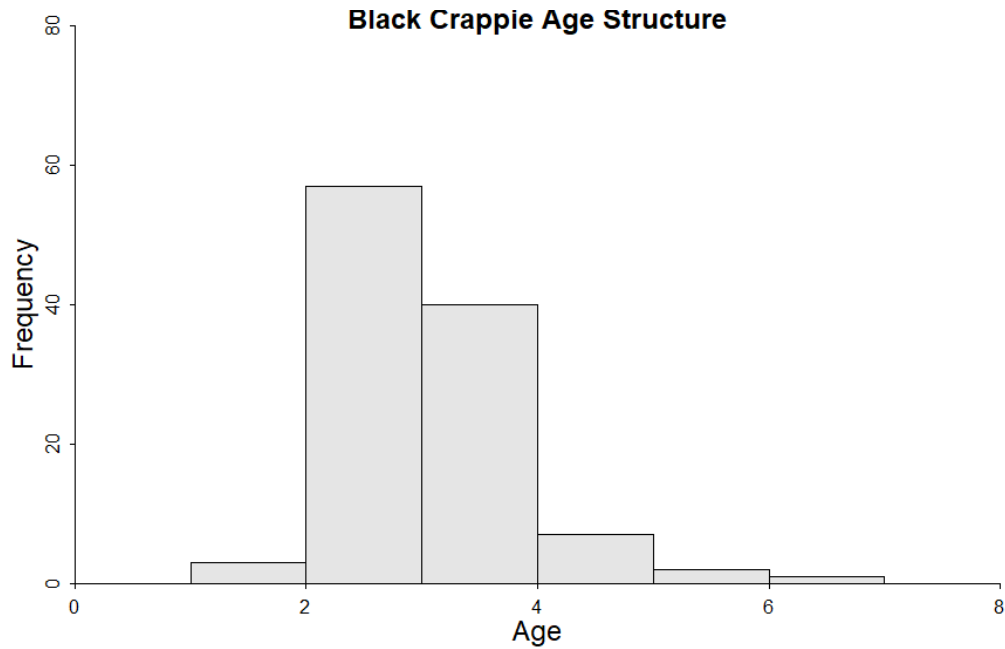


Figure 21. Age structure of black crappies collected during spring sampling in Cox Hollow Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

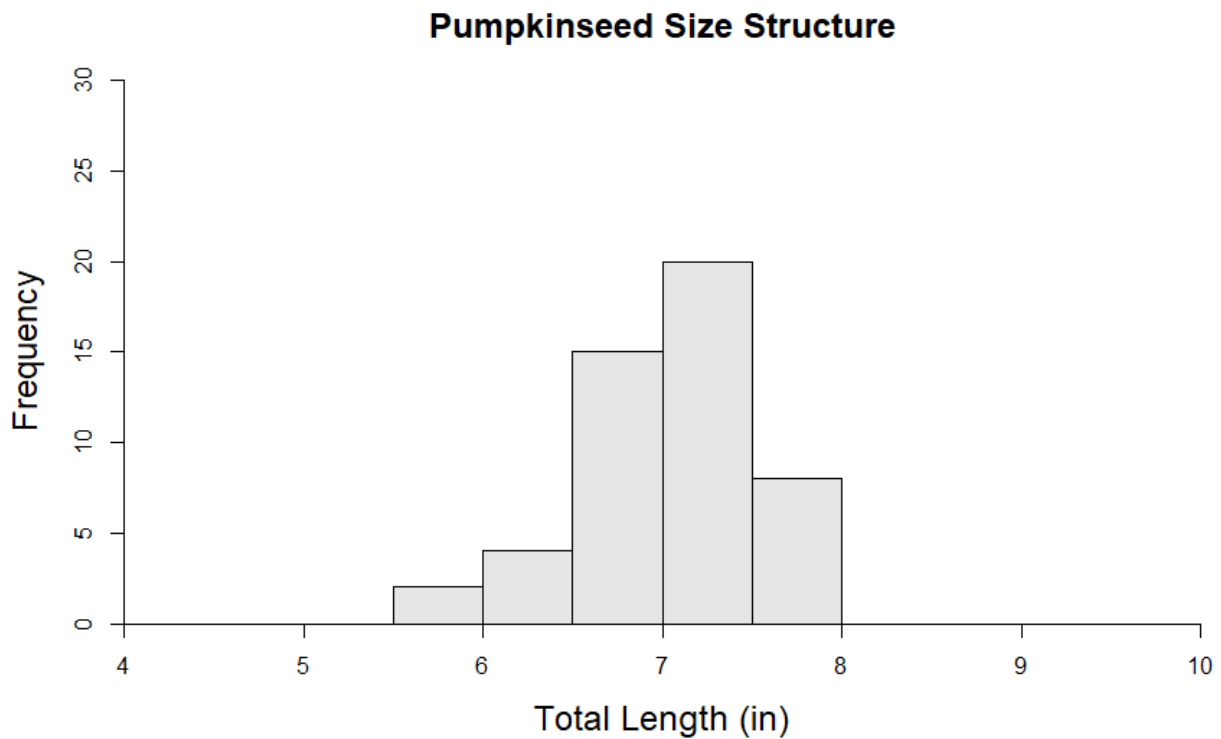


Figure 22. Pumpkinseed size structure from individual fish captured during spring electrofishing surveys.

Table 1. Current special hook and line fishing regulations for gamefish and panfish on Cox Hollow Lake.

SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Largemouth Bass	May 7 - March 5	5	None
Panfish	Open All Year	10	None
Walleye, Saugers or Hybrids	May 7 - March 5	3	18 inches

Table 2. Fish stocking records for Cox Hollow Lake, Iowa County, Wisconsin since 2011.

Year	Species	Age Class	Number Stocked	Average Fish Length (in)
2021	Walleye	Large Fingerling	883	7
2019	Walleye	Large Fingerling	815	6.2
2017	Walleye	Large Fingerling	815	3.4
2015	Walleye	Large Fingerling	815	7
2013	Yellow Perch	Yearling	100	7
2013	Walleye	Large Fingerling	960	6.6
2013	Yellow Perch	Large Fingerling	299	4
2011	Walleye	Large Fingerling	960	7.46
2011	Walleye	Fry	74500	0.4

Table 3. Mean length at age values used for growth rate comparisons.

Species	Age-1	Age-2	Age-3	Age-4	Age-5	Age-6	Age-7	Age-8	Age-9	Age-10	Age-11	Age-12	Age-13
Black Crappie	5.37	8.16	9.76	10.3	10.85	11.8							
Bluegill		4.47	5.29	6.98		8.32	8.16	9.23	9.1				
Largemouth Bass	5.9	8.06	10.14	12.17	13.93	14.64	14.85	18.31	18.74	17.01	19.35		
Walleye	7.93		13.83		15.93		17.18		18.95		17.71		17.9
Yellow Perch		4.47	5.36	7.02	8.01	8.27	8.09	8.88					