

SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

TENKILLER FERRY LAKE

2023

SURVEY REPORT

State: Oklahoma

Project Title: Tenkiller Ferry Lake Fish Management Survey Report

Period Covered: 2022&2023.

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Date Prepared: January 2023

Tenkiller Ferry Lake

ABSTRACT

Tenkiller lake was surveyed by floating shad nets and fall gillnetting in the fall of 2022, boat electrofishing in the spring of 2023 and Fall trap netting in the fall of 2023. Fall gillnet data shows a drop in catch per unit of effort (CPUE) of white bass, channel catfish and flathead. Fall gillnet CPUE of Blue catfish and crappie remained about the same. Fall shad netting showed gizzard shad catch rates dropping slightly while threadfin catch rose slightly. Spring electrofishing catch rates increased for largemouth bass, smallmouth bass and spotted bass. A subset of bass were taken for age and growth analysis with 2023 growth being comparable to the 2018 sample. Fall trap netting was conducted and 2023 crappie catch rates dropped from the 2020 sample. A subset of crappie were kept for age and growth analysis with growth remaining consistent with the 2018 sample. Recommendations include refurbishing habitat sites in the next two years and conducting samples on a 3 year rotation for long term trend data. No regulation changes currently recommended.

INTRODUCTION

Tenkiller Ferry Dam was built by the U.S. Army Corps of Engineers (USACOE) on the Illinois River approximately 12 miles above its confluence with the Arkansas River in eastern Oklahoma. Construction was authorized by Congress under the Flood Control Act of 1938 and completed in 1952. Authorized purposes are flood control and hydropower. The 12,900 acre lake extends 26 miles along a north-south axis in Cherokee and Sequoyah counties (Figure 1), has 130 miles of shoreline with a watershed of 1,030,425 acres in Arkansas and Oklahoma. It has a mean depth of 51 feet and a maximum depth of 138 feet near the dam, making it one of the deeper lakes in Oklahoma. The water exchange rate is relatively low, only 1.7, compared to nearby lakes such as Webbers Falls which is 9.1 and Robert S. Kerr which is 4.7.

Tributaries that directly converge with the lake include Caney, Dry, Elk, Sixshooter, Terrapin, Chicken, Snake, Cato, Salt, Dogwood, Burnt Cabin, Sisemore and Pettit Creeks. Releases from Tenkiller are controlled by hydropower requirements, flows in the Arkansas River as part of the McClellan-Kerr Navigation System and to maintain the year-round trout fishery below the dam.

Little habitat variation exists in Tenkiller. Very little standing timber remains due to the age of the reservoir and the only rip-rap is located along the ½-mile long earth dam. Extreme annual changes in water level have resulted in the presence of little aquatic vegetation available as fisheries habitat. Native rock (chert or limestone) provides the vast majority of fish habitat. The most common substrate found in the feeder creeks is mud and gravel while native rock and gravel are most commonly found along the main lake shoreline. ODWC utilizes cedar trees to create habitat enhancement sites, these sites can be found in Appendix I.

Current regulations follow the statewide black bass regulation that has a daily aggregate creel of 6 largemouth and smallmouth bass per day with only one over 16". This regulation changed in the fall of 2022, before this Tenkiller had a 13-16" slot limit since 1987. A minimum length limit of 10 inches with a creel reduction to 15 per day was placed on the crappie population in 1995 to increase recruitment. This regulation change was well accepted by the fishing public. State wide creel and length limits apply to all other species. Since 1990 threadfin shad, walleye, Tennessee strain smallmouth bass and certified Florida largemouth bass have been stocked. The stocking history since 1982 is contained in Appendix II.

RESULTS

White Bass

White bass were surveyed in the fall of 2022 via suspended gill nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Overall relative abundance of white bass decreased significantly from the 2010 sample (Table 1). Body condition, measured as relative weight (Wr) was at or above the acceptable minimum of ≥ 90 in all size categories except the memorable. Size structure shows a slight shift towards larger individuals with 57% of the sample being ≥ 12 inches in a bi-modal distribution (Figure 1). Proportional size distribution also shows the shift towards larger individuals with a significantly higher PSD-P (Table 2).

Table 1. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of White bass collected by fall gill net from Tenkiller Lake. Acceptable Wr values are ≥ 90 .

		Total CPUE	<u>Stock</u> 5.9 in		<u>Quality</u> 9.1 in		<u>Preferred</u> 11.8 in		<u>Memorable</u> 15 in		<u>Trophy</u> 18.1 in	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>2009</u>	170	12.3	3.7	101	2.3	102	4.2	107	2	100	0.2	99
<u>2010</u>	262	19.7	8.7	91	6.9	92	3.3	93	0.7	85	.	.
<u>2022</u>	94	6.53	2.3	97	0.3	95	2.8	94	1.1	88	.	.

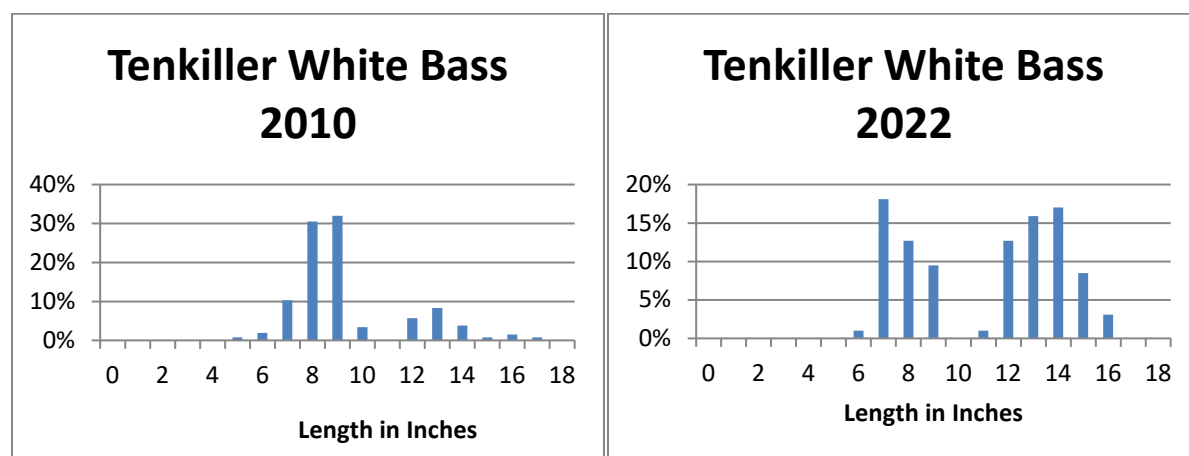


Figure 1. White Bass Gill Net Length Frequency Histogram 2010 & 2022

Table 2. Proportional Size Distribution (PSD) of White Bass Quality (PSD-Q), preferred (PSD-P) and memorable (PSD-M) lengths. PSD values indicate the proportion of fish in or above the quality, preferred or memorable size classes.

<u>Year Surveyed</u>	<u>PSD-Q</u> (9.1 in)	<u>PSD-P</u> (11.8 in)	<u>PSD-M</u> (15 in)	Balanced PSD Values	
2009	71	52	18	PSD-Q	40-70
2010	57	21	4	PSD-P	10-40
2022	64	59	16	PSD-M	0-10

Channel Catfish

Channel catfish were surveyed in the fall of 2022 via suspended gill nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Overall catch rates of channel catfish declined from the previous survey with stock and quality sized fish comprising most of the sample. Channel catfish body condition, measured as relative weight (Wr) were below the acceptable minimum of >90 (Table 3). Channel catfish length frequencies show that fish are largely represented in the 14-18 inch classes, with very few preferred sized fish (Figure 2). Proportional size distributions show that tenkiller catfish are within balanced levels only in the Quality size category with no memorable sized fish captured (Table 4).

Table 3. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Channel catfish collected by fall gill net from Tenkiller Lake. Acceptable Wr values are ≥ 90

		<u>Total</u> CPUE	<u>Stock</u> 11 in		<u>Quality</u> 16.1 in		<u>Preferred</u> 24 in		<u>Memorable</u> 28 in		<u>Trophy</u> 35.8 in	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
2009	35	2.5	0.6	77	1.5	94	.	.	.	.	.	.
2010	82	6.4	2.3	84	2.1	87	0.1	88	.	.	.	.
2022	26	1.8	0.7	75	0.7	84	0.1	93	.	.	.	.

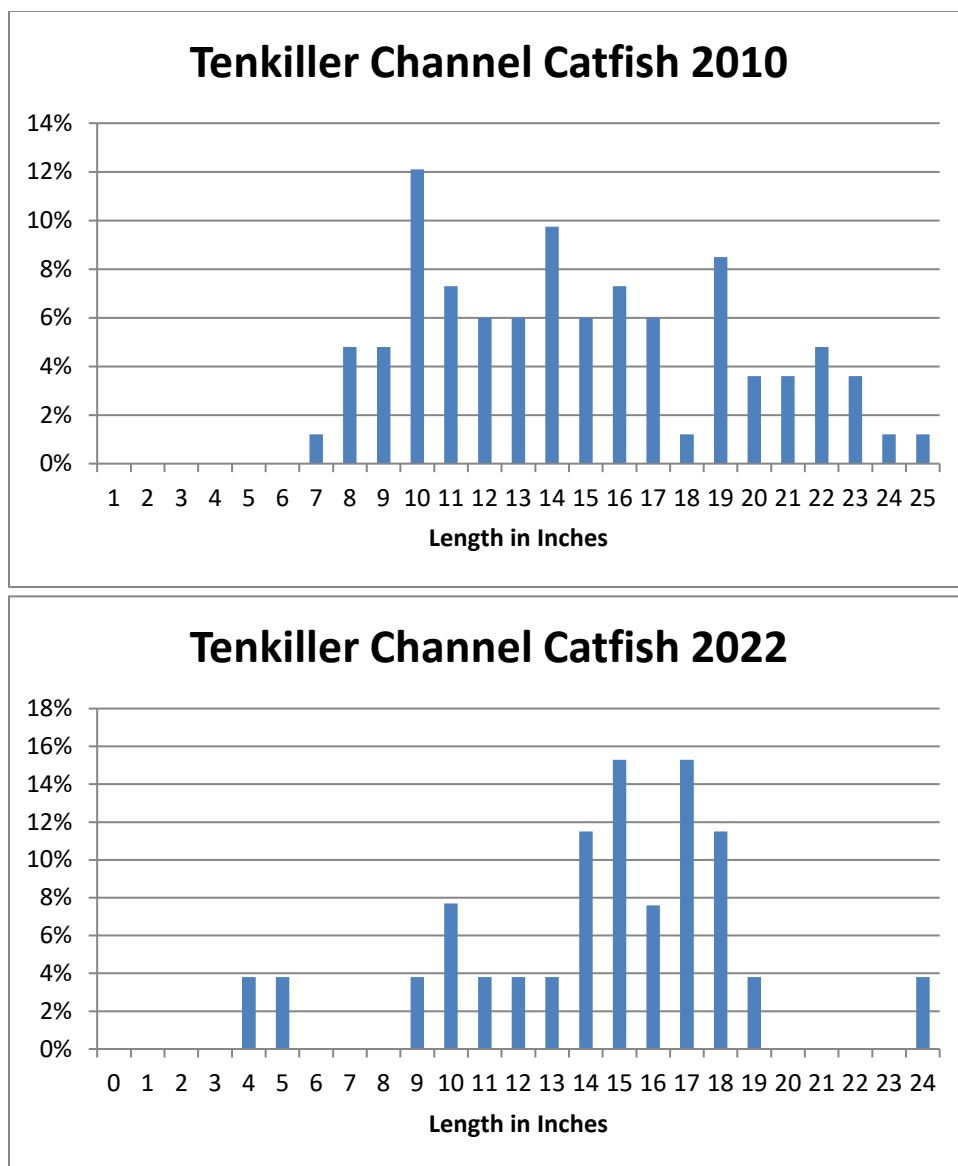


Figure 2. Channel Catfish Gill Net Length Frequency Histogram for Tenkiller Lake

Table 4. Proportional Size Distribution (PSD) of Channel catfish. Quality (PSD-Q), preferred (PSD-P) and memorable (PSD-M) lengths. PSD values indicate the proportion of fish in or above the quality, preferred or memorable size classes.

<u>Year Surveyed</u>	<u>PSD-Q (16.1 in)</u>	<u>PSD-P (24 in)</u>	<u>PSD-M (28 in)</u>
2009	72	28	.
2010	49	2	.
2022	52	5	.

Balanced PSD Values

PSD-Q	40-70
PSD-P	10-40
PSD-M	0-10

Blue Catfish

Blue catfish were surveyed in the fall of 2022 via suspended gill nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Catch rates slightly increased for blue cats in the 2022 sample, however not enough blue catfish were captured to draw any conclusions. Future blue catfish sampling would be needed to bolster numbers. Gillnet catch data and body condition can be seen in Table 5.

Table 5. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Blue catfish collected by fall gill net from Tenkiller Lake. Acceptable Wr values are ≥ 90

		Total CPUE	<u>Stock</u> 11.8 in		<u>Quality</u> 20.1 in		<u>Preferred</u> 29.9 in		<u>Memorable</u> 35 in		<u>Trophy</u> 44.9 in	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>2009</u>	1	0.07	.	.	.	.	0.07	104	.	.	.	.
<u>2010</u>	1	0.08					0.08	119			.	.
<u>2022</u>	5	0.35	0.07	91	0.22	87	.	.	.	.	.	.

Flathead Catfish

Flathead catfish were surveyed in the fall of 2022 via suspended gill nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Catch rates decreased slightly in the 2022 sample, however not enough flathead were captured to draw any conclusions. Future targeted sampling would be needed to bolster numbers. Gillnet catch data and body condition can be seen in Table 6

Table 6. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Flathead catfish collected by fall gill net from Tenkiller Lake. Acceptable Wr values are ≥ 90

		Total CPUE	<u>Stock</u> 13.8 in		<u>Quality</u> 20.1 in		<u>Preferred</u> 28 in		<u>Memorable</u> 33.9		<u>Trophy</u> 40.2	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>2009</u>	2	0.14	0.07	81	0.07	98	.	.	.	.	.	.
<u>2010</u>	9	0.7	0.5	80	0.2	85	.	.	.	.	.	.
<u>2022</u>	3	0.21	0.14	72	.	.	.	.	.	.	.	.

Gizzard Shad

Gizzard shad were surveyed in the fall of 2022 via floating gill nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Catch rates remained relatively stable, showing a slight increase in the 2022 sample (Table 7). All gizzard shad captured fell into the substock category, a size class that makes for ideal forage for most predator fish. Length frequency histograms show that a majority of gizzard shad captured were in the 2 inch length group, which was similar to the 2020 sample (Figure 3).

Table 7. Total number (No.) and catch per unit of effort (CPUE) by size groups of Gizzard Shad collected by fall gill net from Tenkiller Lake.

<u>Gizzard Shad</u>					
<u>Year</u>	<u>No.</u>	<u>Total CPUE</u>	<u>Substock (0-7 in)</u>	<u>Stock (7.1-10.9 in)</u>	<u>Quality (> 11 in)</u>
<u>2015</u>	.	.	.	.	.
<u>2020</u>	194	14.1	14.1	.	.
<u>2022</u>	219	15.9	15.9	.	.

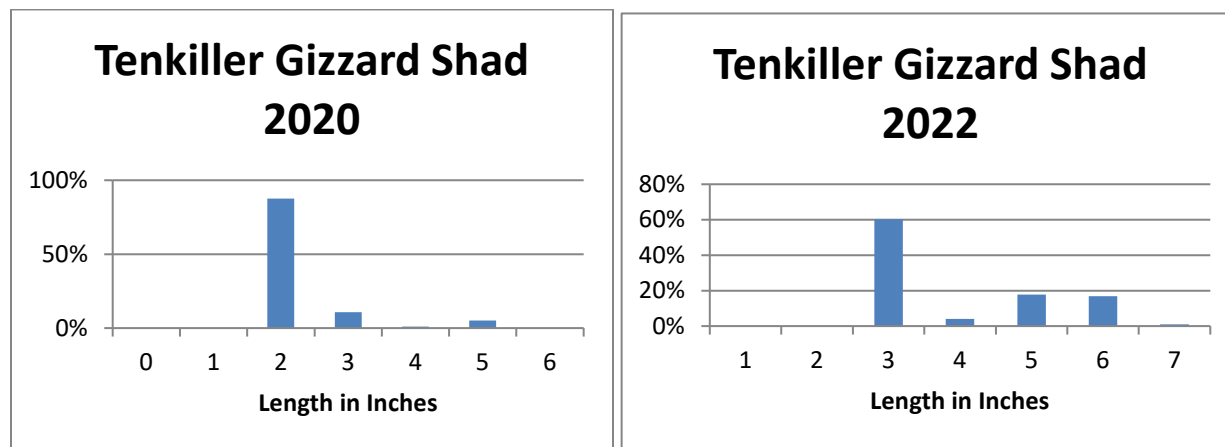


Figure 3. Gizzard Length Frequency Histogram from floating shad nets 2020 & 2022

Threadfin Shad

Threadfin shad were surveyed in the fall of 2022 via floating shad nets. Sampling sites were randomly chosen and nets were fished 18-24 hours. Catch rates increased in the 2022 sample with a Catch per Unit of Effort (CPUE) of 77.3 (Table 8). Threadfin shad are not broken out into size categories since their maximum size is around 6 inches. The 3 inch category comprised 67% of the 2022 sample with the rest of the catch coming in the 4 & 5 inch groups (Figure 4). Threadfin shad continue to thrive in Tenkiller lake finding thermal refuge in deep water during periods of extreme cold.

Table 8. Total number (No.) and catch per unit of effort (CPUE) by size groups of Gizzard Shad collected by fall gill net from Tenkiller Lake

<u>Threadfin Shad</u>		
<u>Year</u>	<u>No.</u>	<u>Total CPUE</u>
<u>2015</u>	952	69.2
<u>2020</u>	883	63.7
<u>2022</u>	1077	77.3

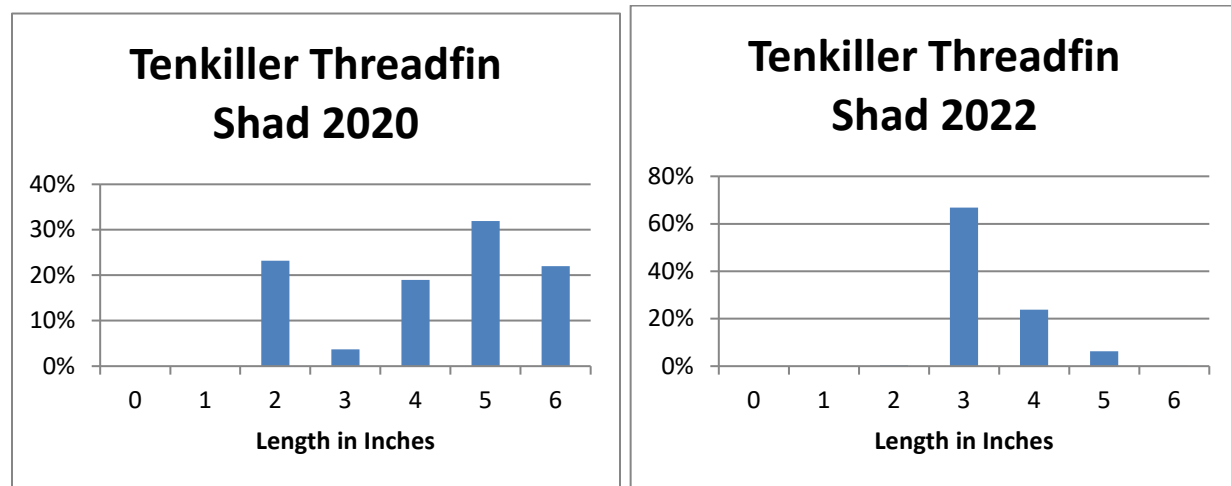


Figure 4. Threadfin Length Frequency Histogram from floating shad nets 2020 & 2022.

Largemouth Bass

Largemouth Bass (LMB) were surveyed in the spring of 2023 by means of boat electrofishing. Randomly selected shoreline units were sampled in discrete 10 minute units. Overall LMB catch rates increased in the 2023 sample to a total of 112.8 LMB per hour. The preferred size class dominated the sample with a catch rate of 53 bass per hour, followed by the quality size class at 31.8. LMB body condition, measured as relative weight (Wr) was above minimum acceptable levels in all categories with a total Wr of 91.5 (Table 9). The largest LMB collected in the sample measured 21.3 inches and weighed 5.4 lbs.

Length frequency histograms showed a shift towards larger fish with 57% of the 2023 sample ≥ 14 inches, this is a 22% increase from the 2018 sample (Figure 5). Proportional size distribution (PSD) reflects this shift in LMB size with an increase in both the quality and preferred size categories (Table 10). These PSD values fall above the suggested balanced values, however coupled with the body condition and apparent recruitment, are not concerning.

A subset of LMB otoliths were collected for age and growth information. LMB growth was rapid early, slowing down at ages 3 & 4 and picking back up again. LMB reach 14 inches between 2-3 years but struggle to reach 16 inches by 4 years of age (Table 11). This could be due to resource competition between all the black basses found in Tenkiller. With the new harvest oriented regulation being implemented on Tenkiller, future monitoring should be done to see if growth rates in middle aged fish increase.

Table 9. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Largemouth bass collected by spring electrofishing from Tenkiller Lake. Acceptable Wr values are ≥ 90 .

		Total CPUE	Total Wr	Substock 0-7.8 in	Stock 7.9 in		Quality 11.8 in		Preferred 15 in		Memorable 20.1 in	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>2012</u>	370	92.5	98.4	9.3	29	94.6	25.7	96.6	27.8	93.7	0.8	84.9
<u>2018</u>	420	105	88.6	5.8	49.3	89.1	21	88.7	27	87.5	2	87.3
<u>2023</u>	451	112.8	91.5	8	19.8	91	31.8	91	53	92.6	0.3	94.6

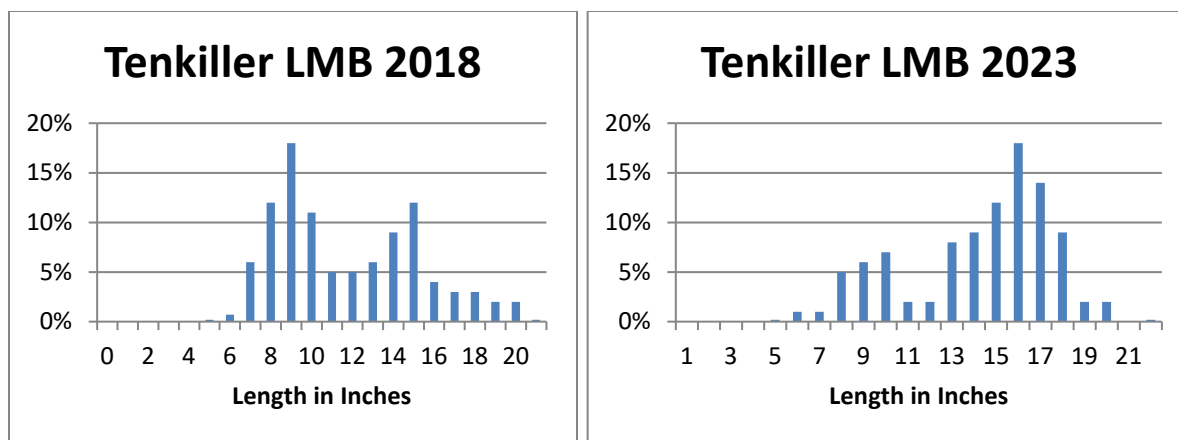


Figure 5. Largemouth Bass Length Frequencies for Tenkiller Lake 2018-2023.

Table 10. Proportional Size Distribution (PSD) of Largemouth bass. Quality (PSD-Q), preferred (PSD-P) and memorable (PSD-M) lengths. PSD values indicate the proportion of fish in or above the quality, preferred or memorable size classes.

Year	PSD-Q	PSD-P	PSD-M	Balanced PSD Values	
2012	65	34	1	PSD-Q	40-70
2018	50	29	2	PSD-P	10-40
2023	81	51	.	PSD-M	0-10

Table 11. Mean Total Length at age (inches) and for Largemouth bass from Tenkiller Lake.

Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9
2018	9	11.6	14.8	16.7	17.5	18.8	19.5		
2023	8.1	12.5	15	15.9	18.4	16.7	20.1	19.3	17.7

Spotted Bass

Spotted bass (SPB) were surveyed in the spring of 2023 via boat electrofishing. Randomly selected shoreline units were sample in discrete 10 minute units of effort. Overall SPB catch rates increased slightly to 20.8 bass/hr. The quality size class was the most represented class in the sample at 10.5 bass per hour followed by the stock size class. SPB body condition, measured as relative weight (Wr) was

above minimum acceptable levels in all categories with a total Wr of 95.8 (Table 12). The largest SPB collected in the sample measured 19 inches and weighed 3.5 lbs.

Length frequency histograms showed a shift towards larger fish with 25% of the 2023 sample ≥ 14 inches, this is an 11% increase from the 2018 sample (Figure 6). Proportional size distribution (PSD) reflects this shift in SPB size with an increase in both the quality and preferred size categories (Table 13). These PSD values fall above the suggested balanced values, however coupled with the body condition and apparent recruitment, are not concerning.

A subset of SPB otoliths were collected for age and growth information. SPB growth was slow to moderate reaching 14 inches between 4-5 years (Table 14). This could be due to resource competition between all the black basses found in Tenkiller, however SPB are known to grow to shorter overall lengths than other black bass. All Spotted bass creel and length limit regulations were removed in 1997 in an attempt to increase harvest of SPB to free up resources for Largemouth and Smallmouth bass.

Table 12. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Spotted bass collected by spring electrofishing from Tenkiller Lake. Acceptable Wr values are ≥ 90

		Total CPUE	Total Wr	Substock 0-7.8 in	Stock 7.9 in		Quality 11.8 in		Preferred 15 in		Memorable 20.1 in	
Year	No.	CPUE	Wr	CPUE	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr
2012	93	23.3	93.5	3	10.5	93.5	5.5	93.6	4	93.7	0.3	93.9
2018	62	15.5	91	1.3	7.5	93.2	4.5	90.5	2.3	85.8	.	.
2023	83	20.8	95.8	0.3	4.3	101.3	10.5	95.3	5.5	93.4	0.3	92.8

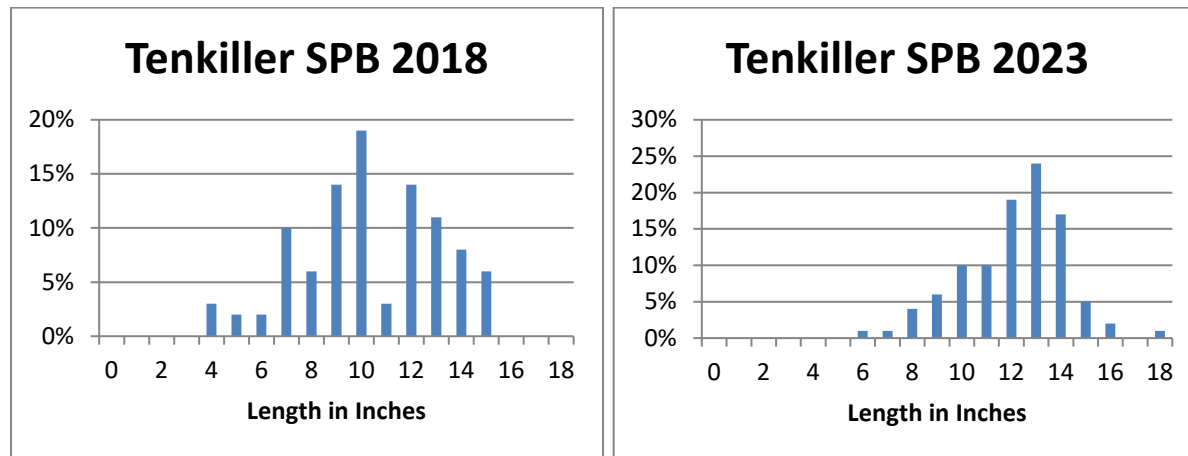


Figure 6. Spotted Bass Length Frequencies for Tenkiller lake 2018 & 2023.

Table 13. Proportional Size Distribution (PSD) of Spotted bass. Quality (PSD-Q), preferred (PSD-P) and memorable (PSD-M) lengths. PSD values indicate the proportion of fish in or above the quality, preferred or memorable size classes.

Year	PSD-Q	PSD-P	PSD-M	Balanced PSD Values	
2012	48	21	1	PSD-Q	40-70
2018	47	16	.	PSD-P	10-40
2023	79	28	1	PSD-M	0-10

Table 14. Mean Total Length at age (inches) and for Spotted bass from Tenkiller Lake.

Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6
2018	8.5	11.9	14.3	.	.	.
2023	.	9.6	12.6	13.8	14.7	14.8

Smallmouth Bass

Smallmouth bass (SMB) were surveyed in the spring of 2023 via boat electrofishing. Randomly selected shoreline units were sample in discrete 10 minute units of effort. Overall SMB catch rates increased slightly to 19.3 bass/hr. The preferred size class was the most represented class in the sample at 6.8 bass per hour followed by the quality size class. SMB body condition, measured as relative weight (Wr) was below minimum acceptable levels in all categories with a total Wr of 85.2 (Table 15). The largest SMB collected in the sample measured 20.8 inches and weighed 4.5 lbs.

Length frequency histograms showed a shift towards smallerer fish with 38% of the 2023 sample ≥ 14 inches, this is an 9% decrease from the 2018 sample (Figure 7). Proportional size distribution (PSD) reflects this shift in SMB size with a decrease in both the preferred and memorable size categories (Table 16). These PSD values fall slightly above the suggested balanced values.

A subset of SMB otoliths were collected for age and growth information. SMB growth was slow to moderate reaching 14 inches between 3-4 years (Table 17). This could be due to resource competition between all the black basses found in Tenkiller. With the new harvest oriented regulation being implemented on Tenkiller, future monitoring should be done to see if growth rates of Smallmouth bass increase.

Table 15. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Smallmouth bass collected by spring electrofishing from Tenkiller Lake. Acceptable Wr values are ≥ 90

		Total CPUE	Total Wr	Stock 7.9 in		Quality 11.8 in		Preferred 15 in		Memorable 20.1 in		Trophy 24.8	
Year	No.	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr
2012	41	10.3	87.8	5.5	90.4	1	95.5	2	83.2	0.8	73.5	.	.
2018	51	12.8	82.4	4	83.8	2	85.5	4.8	80.6	1.8	78.3	.	.
2023	77	19.3	85.2	4.3	84.2	6.5	85.1	6.8	86	1.3	85.3	0.3	84

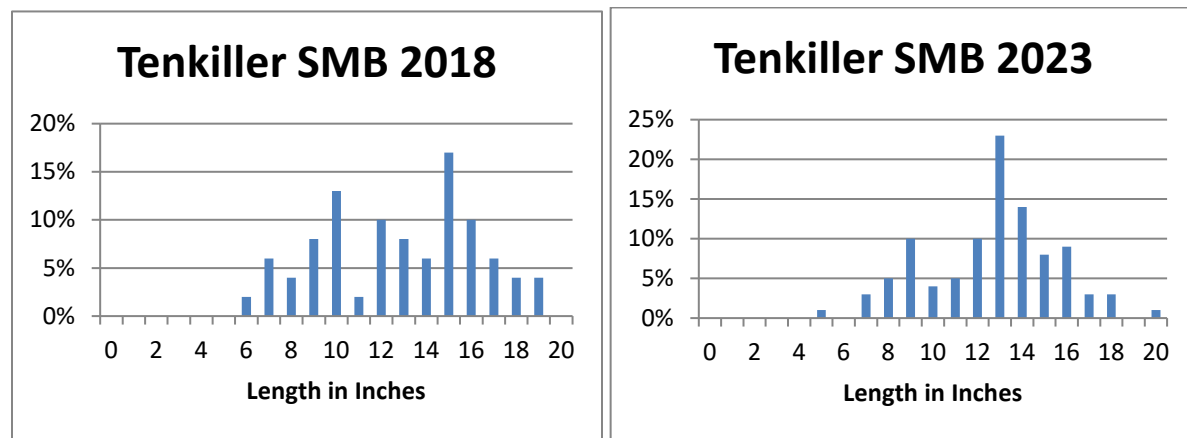


Figure 7. Smallmouth Bass Length Frequencies for Tenkiller lake 2018 & 2023.

Table 16. Proportional Size Distribution (PSD) of Smallmouth bass. Quality (PSD-Q), preferred (PSD-P) and memorable (PSD-M) lengths. PSD values indicate the proportion of fish in or above the quality, preferred or memorable size classes

Year	PSD-Q	PSD-P	PSD-M	Balanced PSD Values	
2012	41	30	8	PSD-Q	40-70
2018	68	52	14	PSD-P	10-40
2023	78	43	8	PSD-M	0-10

Table 17. Mean Total Length at age (inches) and for Smallmouth bass from Tenkiller Lake.

Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7
2018	8.8	11.7	15.1	17	.	18.1	18.2
2023	.	9.4	13.6	15.9	17	17.9	20.8

Crappie

Crappie were sampled in the fall of 2023 using shoreline trap netting. Sites were fixed shoreline sites and nets were fished for 18-24 hours. Tenkiller has populations of both Black and White crappies. However, since they are managed together with an aggregate bag the data has been combined. Since fixed sites were used, catch rates are not used to quantify abundance but data are used for body condition, length frequencies, age and growth and age frequencies but catch rates will still be provided. Crappie catch rates decreased from 7.2 to 4.9 with quality sized fish represented the most at 2.4. Body condition, measured as relative weight (Wr), was well above the minimum acceptable level of 90 in all size categories (Table 18).

Length frequencies show a majority of crappie, 94%, are ≤ 9 inches in length. While this shows strong recruitment, it could mean that currently catching a legal sized crappie might be difficult since there is a 10" minimum length limit on Tenkiller (Figure 8). Trapnetting on Tenkiller has historically been difficult so the lack of legal sized fish could be due to gear bias in a deep, clear Ozark lake.

Age and growth of crappie show good early growth with fish reaching the 10" minimum between 1-2 years of age. Growth leveled off after age 3 and no 14" fish were sampled (Table 19). Age frequency shows that 1 year old fish dominated the sample, indicated a strong 2022 year class and good crappie fishing for the next few years (Figure 9).

Table 18. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of crappie collected by spring electrofishing from Tenkiller Lake. Acceptable Wr values are ≥ 90

		Total CPUE	<u>Stock</u> 5.1 in		<u>Quality</u> 7.9 in		<u>Preferred</u> 9.8 in		<u>Memorable</u> 11.8 in	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>2010</u>	71	4.4	2.1	93.4	0.9	95.7	0.9	95.5	0.2	86.2
<u>2020</u>	242	7.23	3.9	99.9	2.2	100.4	0.4	96.5	0.4	89.9
<u>2023</u>	94	4.9	1.6	96	2.4	98	0.5	99.4	0.1	98.7

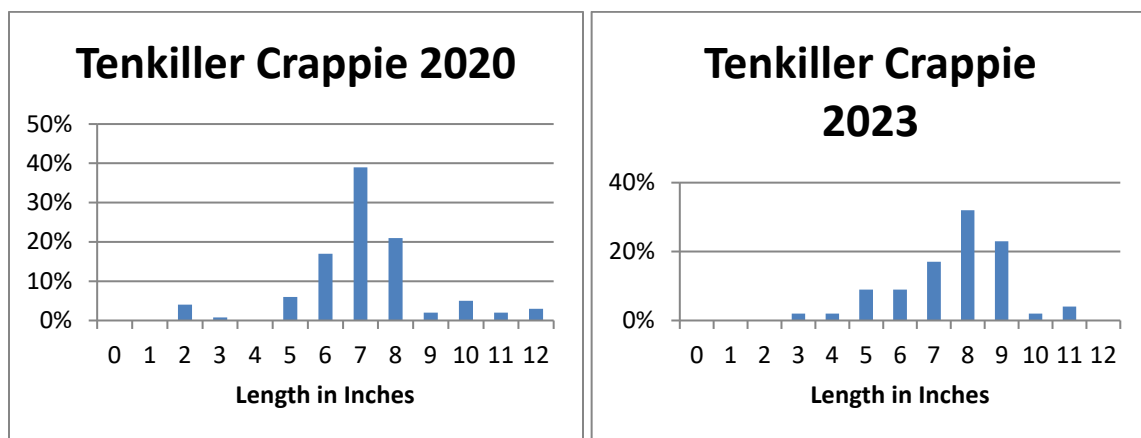


Figure 8. Length Frequency histograms for Tenkiller Crappie collected via trap netting.

Table 19. Mean Length at Age for Fall Tenkiller Crappie.

Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6
2020	7.7	11.9	11.9	12.4	13	.
2023	8.2	11.3	12.4	12.6	13.7	13.5

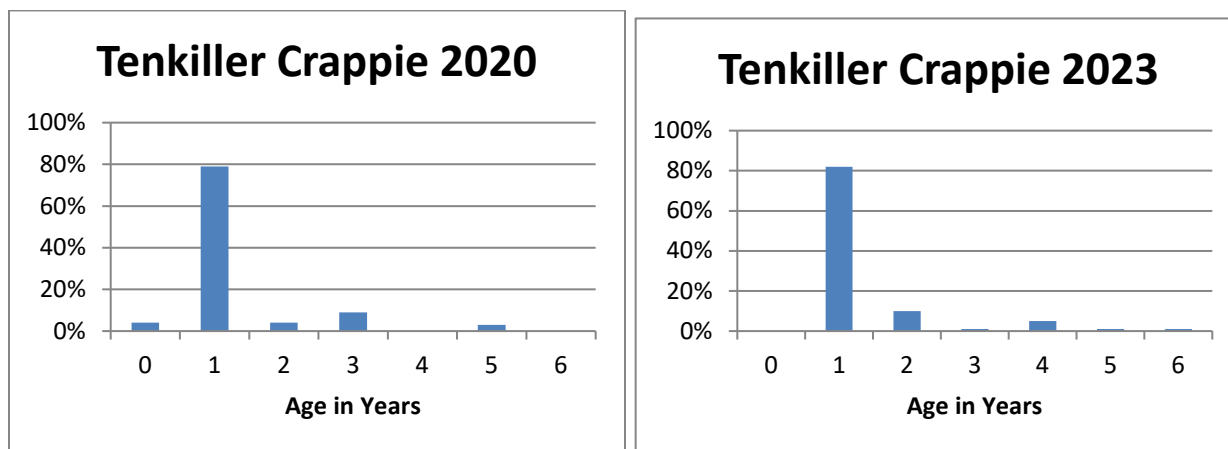


Figure 9. Crappie Age frequencies from trap netting 2020 & 2023.

Appendix I. Tenkiller Habitat Enhancement Sites

Tenkiller Habitat Enhancement Sites				
LAKE	TYPE	LAT	LONG	DATE
Tenkiller	5 large cedars	35.71765	94.95653	12/9/2020
Tenkiller	12 large cedars	35.71657	94.95117	12/9/2020
Tenkiller	5 large cedars	35.73263	94.94865	12/9/2020
Tenkiller	4 large cedars	35.73387	94.95933	12/9/2020
Tenkiller	3 Huge trees	35.73693	94.96017	12/9/2020
Tenkiller	5 large cedars	35.71928	94.94937	12/9/2020
Tenkiller	5 cedars	35.72332	94.96782	12/9/2020
Tenkiller	1 tree	35.76584	-94.922	12/14/2021
Tenkiller	1 large tree	35.76539	-94.9223	12/14/2021
Tenkiller	1 large tree	35.76449	-94.9284	12/14/2021
Tenkiller	1 tree	35.77158	-94.878	12/14/2021
Tenkiller	12 cedar trees	35.73759	-94.9237	12/20/2022
Tenkiller	6 cedar trees	35.74125	-94.9245	12/20/2022
Tenkiller	7 cedar trees	35.74658	-94.9306	12/20/2022
Tenkiller	7 cedar trees	35.75794	-94.9305	12/20/2022
Tenkiller	4 cedar trees	35.75437	-94.9256	12/20/2022
Tenkiller	6 cedar trees	35.75842	-94.9099	12/20/2022
Tenkiller	8 cedar trees	35.75551	-94.9112	12/20/2022
Tenkiller	9 cedar trees	35.76316	-94.9215	12/20/2022
Tenkiller	6 cedar trees	35.76149	-94.9109	12/20/2022
Tenkiller	7 cedar trees	35.63747	-94.9768	12/21/2022
Tenkiller	10 cedar trees	35.63941	-94.9738	12/21/2022
Tenkiller	7 cedar trees	35.64073	-94.9712	12/21/2022
Tenkiller	5 cedar trees	35.64825	-94.9831	12/21/2022
Tenkiller	7 cedar trees	35.64796	-94.9839	12/21/2022
Tenkiller	11 cedar trees	35.64968	-94.9858	12/21/2022
Tenkiller	7 cedar trees	35.65077	-94.9838	12/21/2022
Tenkiller	7 cedar trees	35.65618	-94.9781	12/21/2022
Tenkiller	6 cedar trees	35.65634	-94.9774	12/21/2022
Tenkiller	4 cedar trees	35.63978	-94.9753	12/21/2022

Appendix II. Tenkiller Recent Stocking History

Date	Species	Number	Size (inches)
1982	Threadfin Shad	4,000	3"-4"
1988	Threadfin Shad	10,344	3"-4"
1989	Threadfin Shad	3,790	3"-4"
1989	Walleye	129,000	Fingerling
1989	Florida LMB (Intergrade)	65,830	Fingerling
1990	Threadfin Shad	6,400	3"-4"
1990	Walleye	128,300	Fingerling
1990	Tenn. Strain SMB	32,900	Fry
1990	Tenn. Strain SMB	12,112	Fry
1991	Walleye	850,000	Fry
1994	Florida LMB (Certified)	20,000	Fingerling
1995	Florida LMB (Certified)	20,022	3"
1996	Walleye	53,500	1.25"
1997	Walleye	65,500	1.25"
1998	Walleye	42,000	1.25"