

Ellsworth District Fisheries



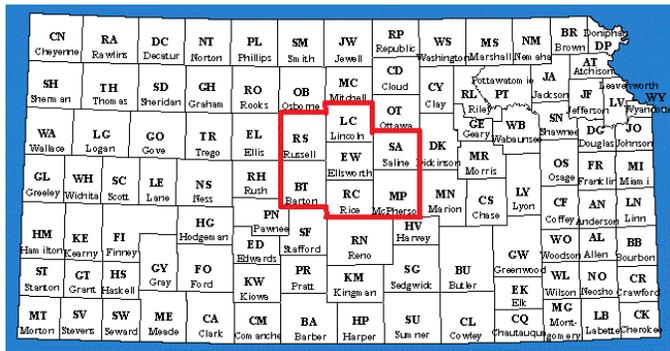
Kansas Department of Wildlife, Parks & Tourism Fisheries Division

Spring 2018

District Information

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Counties and Reservoirs



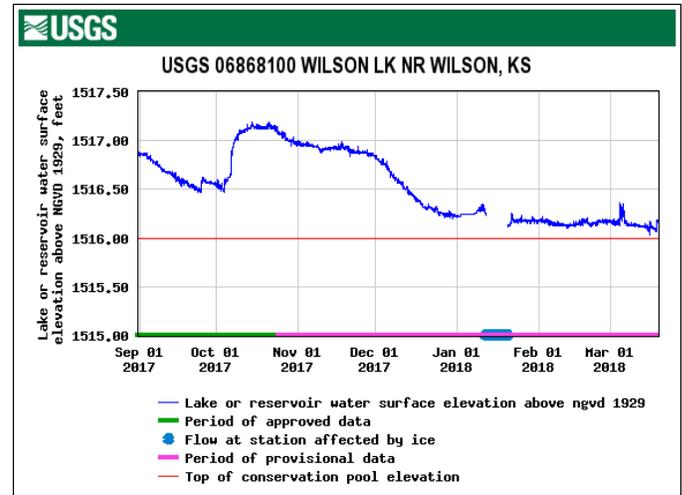
Russell	Wilson Reservoir - 9000 acres
Lincoln	Only leased F.I.S.H. properties
Saline	Saline State Lake (DRY)
	Lakewood Lake - Salina – 6 acres
	Indian Rock Lake - Salina (DRY)
Barton	Cheyenne Bottoms Wildlife Area
	Stone Lake – Great Bend - 40 acres
	Veteran’s Lake – Great Bend - 13 acres
Ellsworth	Kanopolis Reservoir - 3550 acres
	Holyrood City Lake – 13 acres
Rice	Sterling City Lake - 10 acres
McPherson	McPherson State Lake - 47 acres
	Black Kettle State Lake – 8 acres
	Windom City Pond – 1 acre

Note: Keep in mind that there are various Arkansas River access points throughout the region and F.I.S.H. Program properties. The F.I.S.H. Program leases the angling rights from private landowners to allow you to fish their ponds. Get the latest Kansas Fishing Atlas for details.

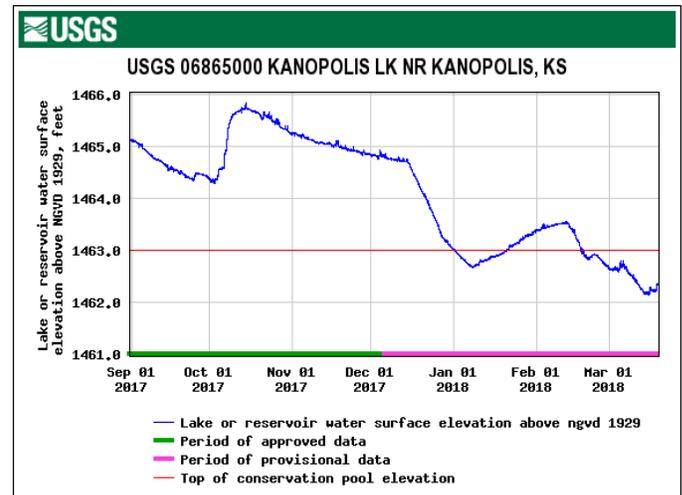


Winter Weather Conditions

Wilson Reservoir – The reservoir filled in September 2016 and has been above conservation pool (1,516.00’) for a year and a half. The last six months have been relatively stable and the elevation is currently just above conservation pool going into the spring.



Kanopolis Reservoir – The reservoir experienced drastic increases in water level throughout much of the early summers of 2016 and 2017. The elevation has experienced considerable fluctuations in the last six months and is currently 10 inches below conservation pool. They are releasing water for outlet maintenance.



Fall Fish Sampling Guide

Wilson Reservoir

Blue Catfish	2016 sample	2017 sample
Total fish in nets	15	17
% of 12-inch fish	0	0
% of 20-inch fish	100	100
% of 30-inch fish	0	0

Still low catches and no fish greater than the 35-inch length limit; however, there are reports of a few fish over the length limit.



We did collect some smaller, 1-year-old blue catfish with supplemental electrofishing in the summer 2017.



Sowards holds the largest Blue Catfish from the 2017 samples. It was collected using supplemental floatlines in 2017 and measured 33 inches, just shy of the 35-inch minimum length limit. It weighed 17 pounds.

Channel Catfish	2016 sample	2017 sample
Total fish in nets	72	107
% of 11-inch fish	28	6
% of 16-inch fish	65	90
% of 24-inch fish	7	4

Channel catfish numbers have improved and there's a higher proportion of fish larger than 16 inches.

Largemouth Bass	2016 sample	2017 sample
Total fish electrofished	13	114
% of 8-inch fish	17	54
% of 12-inch fish	17	16
% of 15-inch fish	66	30

Bass reproduction exploded when the lake re-filled. The majority of fish (54%) were less than 12 inches in the 2017 sample and these fish should be close to legal size (15 inches) this spring. Largemouth bass stockings seem to have aided in the quick recovery of the population.



Ernesto Flores displaying a quality smallmouth/largemouth bass pair collected with electrofishing in May 2017. Note the abundant reed grass in the background.

Smallmouth Bass	2016 sample	2017 sample
Total fish electrofished	4	77
% of 7-inch fish	33	18
% of 11-inch fish	0	35
% of 14-inch fish	67	37
% of 17-inch fish	0	10

An updated electrofishing boat improved our sample size in 2017. This remains one of the top three Smallmouth Bass destinations in Kansas.

Stripers	2016 sample	2017 sample
Total fish in nets	83	60
% of 12-inch fish	60	11
% of 20-inch fish	40	87
% of 30-inch fish	0	2

The 2015 (age three) year class fish have grown substantially. These, now three-year-old fish in 2018 range from 20-23 inches in length and should provide excellent striper angling.



Jeff Rue and Rose with a healthy striper caught under the ice in January 2018.

White Perch	2016 sample	2017 sample
Total fish in nets	367	237
% of 5-inch fish	51	73
% of 8-inch fish	17	9
% of 10-inch fish	25	8
% of 12-inch fish	7	10

White perch numbers in our gill nets dropped in 2017. However, catches in trap nets increased. There is an abundance of young white perch in Wilson Reservoir. Most are less than 8 inches in length.

Walleye	2016 sample	2017 sample
Total fish in nets	159	146
% of 10-inch fish	16	1
% of 15-inch fish	77	73
% of 20-inch fish	6	26
% of 25-inch fish	1	0

Walleye catches remained similar but the number of fish smaller than 15 inches is cause for concern. There is an abundance of larger fish as 26% of the sample consist of fish greater than 20 inches in length. Wilson ranks fourth in the state for walleye density and third for walleye greater than 20 inches in length.

White Bass	2016 sample	2017 sample
Total fish in nets	70	89
% of 6-inch fish	30	1
% of 9-inch fish	26	11
% of 12-inch fish	6	74
% of 15-inch fish	37	14
% of 18-inch fish	1	0

White Bass reproduction has suffered but the 2016 sample showed a vast improvement as 30% of the sample were longer than 9 inches. The 2017 sample showed minimal young fish and 88% of the population greater than 12 inches in length. Many were caught under the ice in January 2018.

Kanopolis Reservoir

Blue Catfish	2016 sample	2017 sample
Total fish in nets	1	7
% of 12-inch fish	100	100
% of 20-inch fish	0	0
% of 30-inch fish	0	0

Blue catfish have been stocked since 2008 but have not become established. We stocked 30,000 blue catfish in 2017 and our sample size increased from 1 in 2016 to 7 in 2017. It will be interesting to see if they make it to larger sizes.



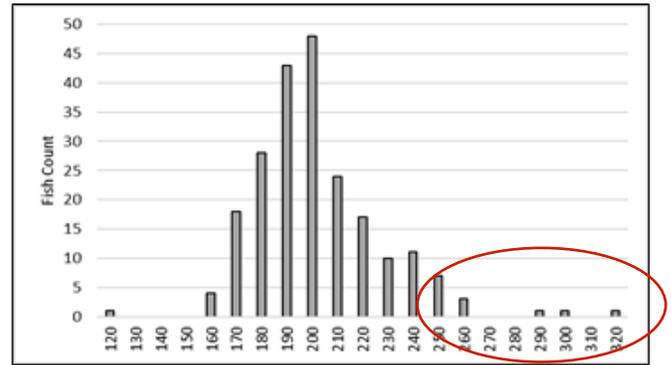
A small Blue Catfish collected at Kanopolis in October 2017. This was one of 30,000 stocked the month before in September 2017.

Channel Catfish	2016 sample	2017 sample
Total fish in nets	49	117
% of 11-inch fish	37	33
% of 16-inch fish	61	67
% of 24-inch fish	2	0

Sample numbers are back up to normal levels. Kanopolis ranks 8th for channel catfish density among state reservoirs.

Crappie	2016 sample	2017 sample
Total fish in nets	48	255
% of 5-inch fish	6	47
% of 8-inch fish	56	43
% of 10-inch fish	33	8
% of 12-inch fish	4	1

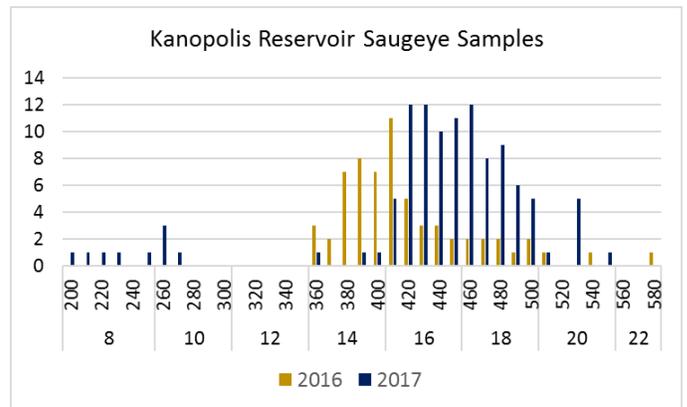
Crappie numbers improved significantly in the 2017 sample. However, nearly 90% of crappie are less than 8 inches in length.



A bar graph showing the abundance of crappie collected in our nets in 2017. The X-axis is in mm. The red circle shows fish that are greater than 10" in length.

Saugeye	2016 sample	2017 sample
Total fish in nets	63	109
% of 9-inch fish	0	6
% of 14-inch fish	81	50
% of 18-inch fish	17	44
% of 22-inch fish	2	0

A new 18-inch minimum length limit began in 2017. Saugeye numbers and size structure has immediately improved. The number of saugeye greater than 18 inches in length improved from 17% in 2016 to 44% in 2017.



Saugeye length frequency in 2016 (yellow) and 2017 (blue) samples. Note the shift to the right or overall improvement of size in 2017. The X-axis shows both mm (top) and inches (bottom).

Wipers	2016 sample	2017 sample
Total fish in nets	100	37
% of 8-inch fish	74	16
% of 12-inch fish	17	59
% of 15-inch fish	9	25
% of 20-inch fish	0	0

Wipers haven't been stocked in a few years; therefore, numbers are declining and size is increasing.

White Bass	2016 sample	2017 sample
Total fish in nets	145	171
% of 6-inch fish	1	2
% of 9-inch fish	17	8
% of 12-inch fish	50	73
% of 15-inch fish	32	17

White bass reproduction was nearly non-existent in 2016 and 2017. There's plenty of large fish to be caught as 90% of the population is are longer than 12 inches.



Tommie Berger with a large wiper collected at Kanopolis Reservoir in October 2017.

McPherson State Lake

Bluegill	2016 sample	2017 sample
Total fish in nets	52	134
% of 3-inch fish	38	22
% of 6-inch fish	62	78
% of 8-inch fish	0	0

Six-inch fish are common.

Channel Catfish	2016 sample	2017 sample
Total fish in nets	40	51
% of 11-inch fish	50	65
% of 16-inch fish	42	35
% of 24-inch fish	8	0
% of 28-inch fish	0	0

I have a feeling catfish are being harvested rapidly but provide some quality summer fun.

Largemouth Bass	2016 sample	2017 sample
Total fish electrofished	109	173
% of 8-inch fish	20	26
% of 12-inch fish	31	25
% of 15-inch fish	48	47
% of 20-inch fish	1	2

Great bass fishing at McPherson. Numbers have likely improved due to the use of an updated electrofishing boat.



Jason Black with a 6-pound largemouth bass collected with electrofishing in May 2017.

Crappie	2016 sample	2017 sample
Total fish in nets	209	200
% of 5-inch fish	35	48
% of 8-inch fish	60	48
% of 10-inch fish	4	3
% of 12-inch fish	1	1

Fish are mostly small but 10-inch fish are present. Catch and eat all the small crappie you can manage.

Saugeye	2016 sample	2017 sample
Total fish in nets	17	17
% of 9-inch fish	0	0
% of 14-inch fish	18	10
% of 18-inch fish	59	50
% of 22-inch fish	23	40

The Saugeye minimum length limit is now 21 inches and only 2 can be kept per day. These fish are being used to help control the crappies. Trophy angling for saugeye should be good this year as 90% of the sample consisted of fish greater than 18 inches in length. Nearly 65% of the sampled fish were greater than the 21-inch minimum length limit!



Jason Black with a very healthy saugeye collected at McPherson State Lake during electrofishing in May 2017.

Blue Catfish and Striped Bass Growth at Wilson Reservoir

How fast do fish grow? Well, it depends. Fish, like all cold-blooded animals, grow throughout their life. They generally grow much faster in their first few years of life and then growth is slow and, usually, consistent. The rate of growth depends on many factors, including gender of the fish (males typically grow slower), forage availability and abundance, abundance of other predators, length of growing season, and water temperature. Most fish grow fastest in the late spring/early summer and fall timeframes. Growth is generally slow in the winter and can also be slow in the dog days of summer. Cold water slows their metabolism and hot water can be stressful. Keep these things in mind when you read about the growth of blue catfish and striped bass at Wilson Reservoir.

Blue Catfish

Ernesto Flores and I collected pectoral spines from more than 100 blue catfish at the reservoir in June 2017 as part of his Master's thesis at Fort Hays State University. Spines were removed without harming the fish, other than creating a wound that healed in a matter of weeks. The spines were then cut into thin cross sections. Once sectioned, we count the number of rings, which indicates the age of the fish. This is similar to aging trees by counting growth rings. After he aged many fish in the lab, we had a clearer picture of blue catfish growth at Wilson Reservoir, which will help us formulate an appropriate length regulation in the future.



A cross section of a 4-year-old blue catfish pectoral spine. The black dots denote each annual growth ring.

We collected 165 blue catfish from Wilson Reservoir. We have stocked these fish into the reservoir almost every year since 2006; therefore, the oldest fish we should have seen would have been 11 years old. We collected blue catfish that were 1, 8, 9, 10, and 11 years old. These ages would correspond to fish spawned in 2006, 2007, 2008, 2009, and 2016. No fish that would have been spawned from 2010-2015 were collected and that is likely due to poor reservoir conditions during the drought. Blue catfish grew quickly through their first few years of life but have since grown very slowly (Table 1 & Figure 1).

Blue Catfish Length at Age in Wilson Reservoir

Age	Length range (inches)	Average Length (inches)
1	8.3 – 11	9.7
2	None collected	None collected
3	None collected	None collected
4	None collected	None collected
5	None collected	None collected
6	None collected	None collected
7	None collected	None collected
8	21.7 – 29.9	24.6
9	21.3 – 29.5	25.4
10	20.5 – 33.1	25.9
11	22.8 – 31.1	26.4

Table 1. Length range and average length at age for blue catfish collected in Wilson Reservoir in June-July, 2017 (Flores et al., unpublished data).

While it is true that a small number of blue catfish have grown to the 35-inch- minimum length limit, as reported by a small number of anglers, the average fish are growing very slowly.



The author displaying a 31-inch blue catfish collected in Wilson Reservoir in June, 2017. This fish was 11 years old.

This pattern of slow growth for adult blue catfish is not uncommon. Several reservoir populations throughout the country share similar patterns. Slow growth at Wilson is likely due to limited gizzard shad abundance from 2006 – 2015 but other likely causes are still being studied. It might take many more years than expected for an abundance of 35-inch fish to be caught. The world-class blue catfish population at Milford Reservoir didn't become popular for trophy fish for nearly 20 years after the population was established, which provides hope for the Wilson population. This age and growth information, in part, will be used to develop a more reasonable length regulation for blue catfish at Wilson Reservoir in the near future.

Blue Catfish Growth Curve – Wilson Reservoir

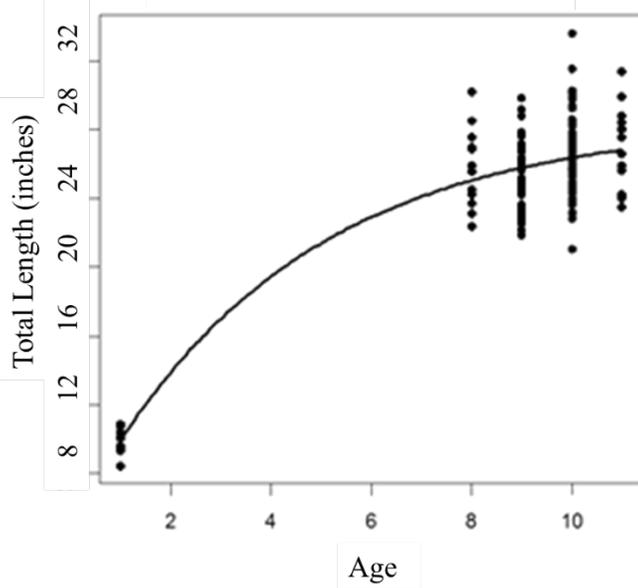


Figure 1. Growth curve for blue catfish collected in Wilson Reservoir in June-July, 2017 (Flores et al. unpublished data).

Striped Bass

Striped bass (stripers) are native to the Atlantic Coast of North America. They move throughout coastal rivers during critical times of the year to spawn and then return to lower portions of those rivers and bays. It wasn't until 1941 when the Santee and Cooper rivers in South Carolina were dammed to create Santee Cooper Reservoir that we realized striped bass could be

established wholly within lake environments. A portion of the population within these rivers were isolated behind the dam and thrived. This species has since been either trapped by dams or stocked into lakes and reservoirs throughout the country.

Striped Bass were first stocked into Wilson Reservoir in the 1970s. This species rarely reproduces successfully in reservoirs. Likewise, they do not reproduce in Wilson Reservoir and must be stocked to support the population.

Important to the age information that will follow, one must understand a phenomenon of striped bass in these impounded systems: Adult striped bass do not do well in warm water. They become stressed and seek out cooler areas, if available, when the water temperature reaches 77 degrees. Several studies have been conducted and show severely reduced growth rates for adult stripers during the summer as temperatures are highest. This seems to be consistent with the growth information we gathered for Wilson Reservoir Striped Bass (see below: Table 2 & Figure 2).

In November 2017 we captured 60 striped bass and used similar methods, as described for blue catfish, to determine their age. Instead of spines, we used otoliths, or ear stones from inside the fish's skull. This is a calcified structure that aids in balancing the fish in the water and detecting vibrations. It has been determined to be an excellent structure for determining the age of many species of fish.

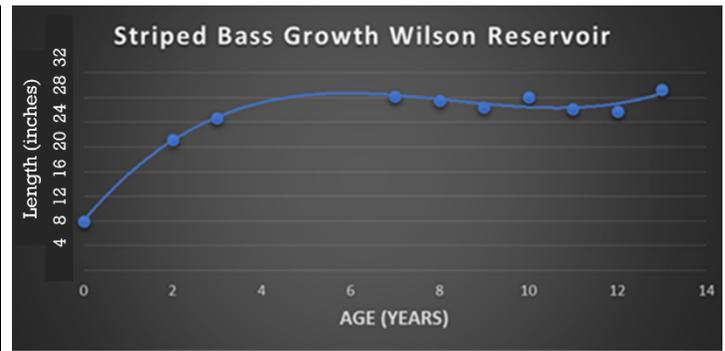
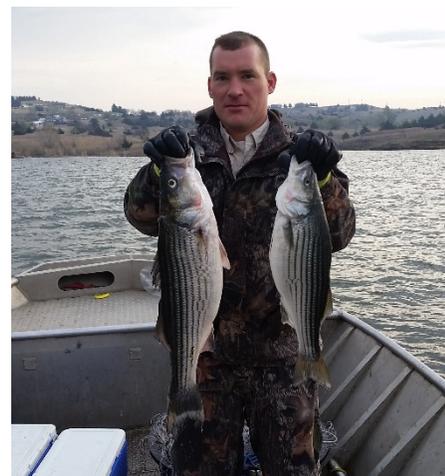


Figure 2. Growth curve for striped bass collected in Wilson Reservoir in November 2017.

We collected fish that ranged from 1 – 14 years of age. The oldest fish collected hatched in 2004! It seems that the average striped bass at Wilson grows very rapidly until age four and then almost completely stops growing. We collected 13-year-old fish that were only slightly longer than our four-year olds! It is likely that warm summer temperatures and low gizzard shad abundance, compared to other reservoirs, is likely curtailing the growth of these larger, adult stripers.

Anglers have caught large, 32-45 inches weighing 20-44 pounds, stripers at Wilson Reservoir. While it's true that a few of the resident fish grow to large sizes within the reservoir, some of these fish come from our hatcheries as large adults from 15-30 lbs. These are fish that have lived at the hatchery for many years and are used as brood stock to reproduce young stripers that are stocked into some of our reservoirs. As they age, they need to be replaced. That is why some of those large adults are stocked into Wilson. Nonetheless, if you catch a 25-inch striper at the lake, it could be four to 14, or more, years old.

James Svaty displaying two healthy stripers from Wilson Reservoir.



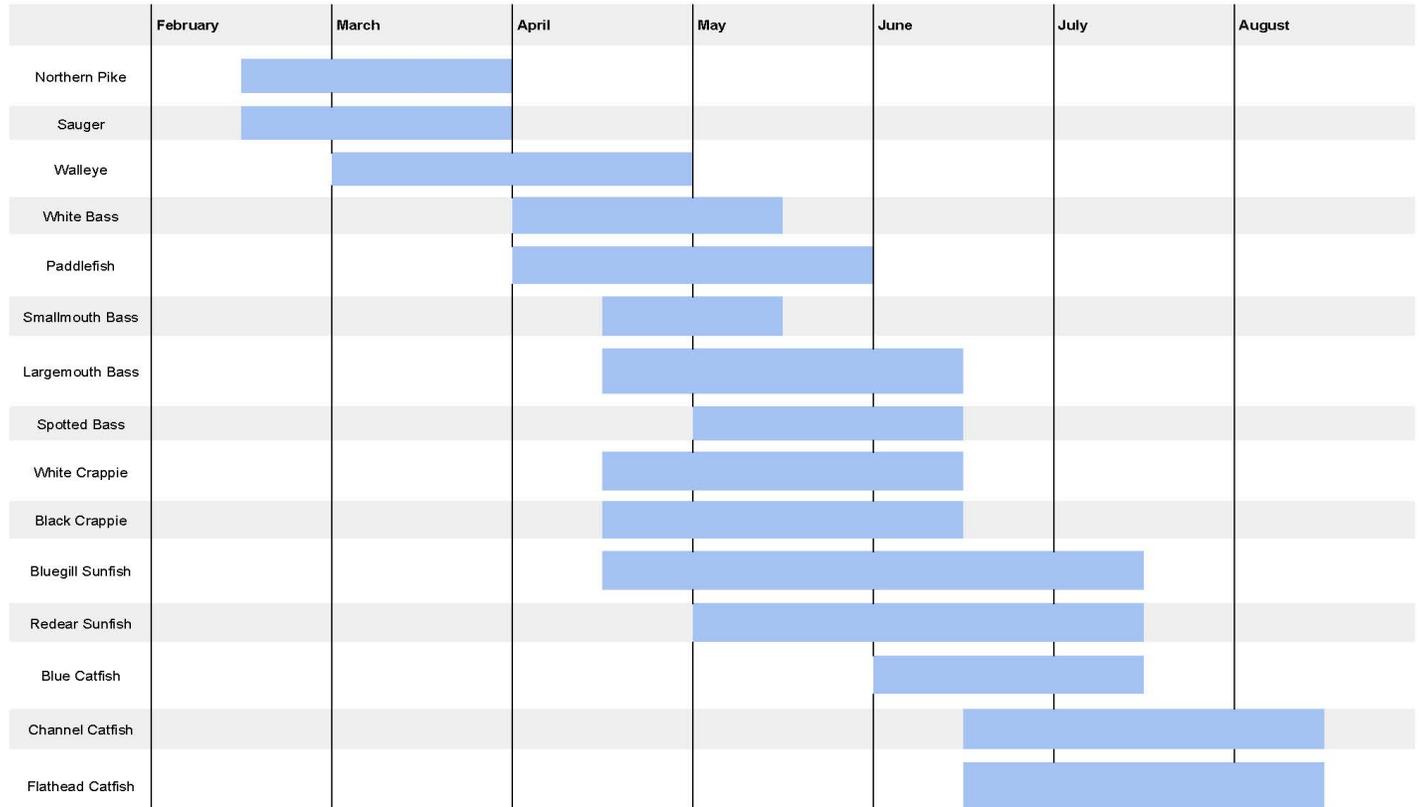
Striped Bass Length at Age in Wilson Reservoir		
Age	Length range (inches)	Average Length (inches)
1	7 - 10	9.7
2	None collected	None collected
3	20 - 22	20.5
4	21 - 27	24
5	None collected	None collected
6	None collected	None collected
7	None collected	None collected
8	27 - 29	27.6
9	27 - 29	27.2
10	25 - 28	26.4
11	25 - 30	27.6
12	25 - 27	26.4
13	25.6	25.6
14	29	29

Table 2. Length range and average length at age for striped bass collected in Wilson Reservoir in November 2017).

Spawning Schedules

Fish species spawn at varying times of the year. This is based on a species' physiology, water temperature, and the changing day length. Water levels and other abiotic conditions can also play a role. Cold water species (Northern Pike, Walleye, etc.) typically spawn first, followed by black basses and crappies, and finally catfishes. This rough display (below) illustrates typical spawning times for popular Kansas sport fish. Remember, large females are typically more difficult to catch during the spawn for most fish species. Their energy and focus is on reproducing and not eating your bait. It's likely a better plan of action to target these fish as the spawn draws to a close and they begin feeding again.

Typical Fish Spawning Months in Kansas*



**Please note that fish spawning is dependent on water temperatures, day length and other factors, which can vary annually and by location. This information is meant to be a general guideline for anglers curious about the approximate spawning seasons, and not an exact representation of specific start and ending dates for fish spawning time in Kansas.*

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