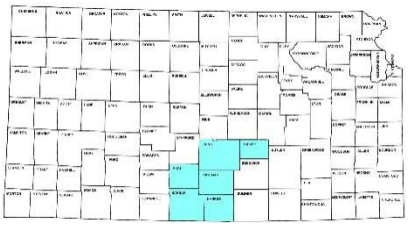
SPRING 2022



CHENEY DISTRICT FISHERIES

Volume 13, Issue 1

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Kansas Department of Wildlife and Parks

In this Edition:

FISHING PROGRAMS

Master Angler Award Program

Are you a Master Angler? Prove it! Kansas Department of Wildlife, Parks, and Tourism has a program called the Master Angler Award Program. If you catch a fish in Kansas large enough to qualify, you will receive a Master Angler Award certificate! Sizes of each species as well as a certificate application form can be found here: https://ksoutdoors.com/Fishing/Special-Fishing-Programs-for-You/Master-Angler-Award-Program

Trout Program

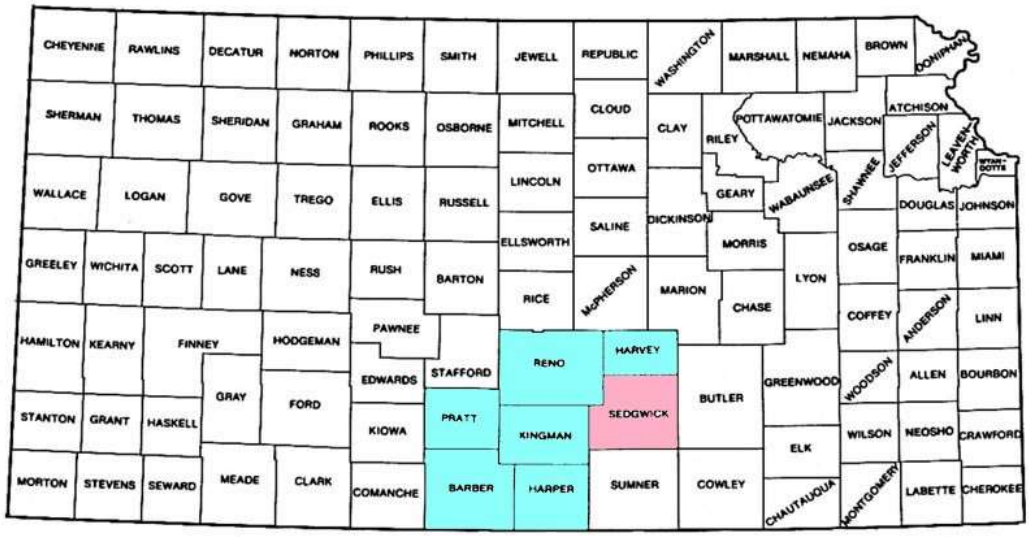
Trout season runs from November 1st through April 15th. KDWP will stock certain urban waters with adult sized trout ready to be caught. For more information on the Trout program including stocking locations and stocking dates click here: https://ksoutdoors.com/Fishing/Special-Fishing-Programs-for-You/Trout-Fishing-Program

Remember that KDOT East, Vic's Lake, and Slough Creek are Type 1 trout waters and all anglers fishing those waters November 1st - April 15th must have a trout permit.

Urban Fishing Program

KDWP has created the Urban Stocking Program to provide local fishing opportunities. Adult sized Channel Catfish (3/4lb-3lbs) are stocked in many public waters in Reno and Sedgwick counties. These fish are harvestable size and ready to catch. For more information on stocking locations and dates click here: https://ksoutdoors.com/Fishing/Special-Fishing-Programs-for-You/Urban-Fishing-Program

Re-Districting



Change in districts for fisheries managers.

In the past, Sedgwick County had its own urban fisheries biologist. Due to budget restrictions, this position was combined with the Cheney district. Because of this, district biologists were not able to spend the amount of time necessary to properly manage the 35 water bodies in Sedgwick County. In order to help with this issue, David Breth volunteered to take over fish management duties in Sedgwick County. David is also the Statewide Fish Education Coordinator. He started with the department in 2008 as a Fisheries Seasonal in Wichita. He has also been a Park Ranger and the Statewide Fisheries Programs Coordinator.

With Sedgwick County no longer a part of the Cheney district, the district was expanded to include Pratt and Barber Counties. This will allow for more attention for both the Sedgwick County urban waters, as well as for Cheney reservoir and State Fishing Lakes.

SAMPLING OVERVIEW: Crappie

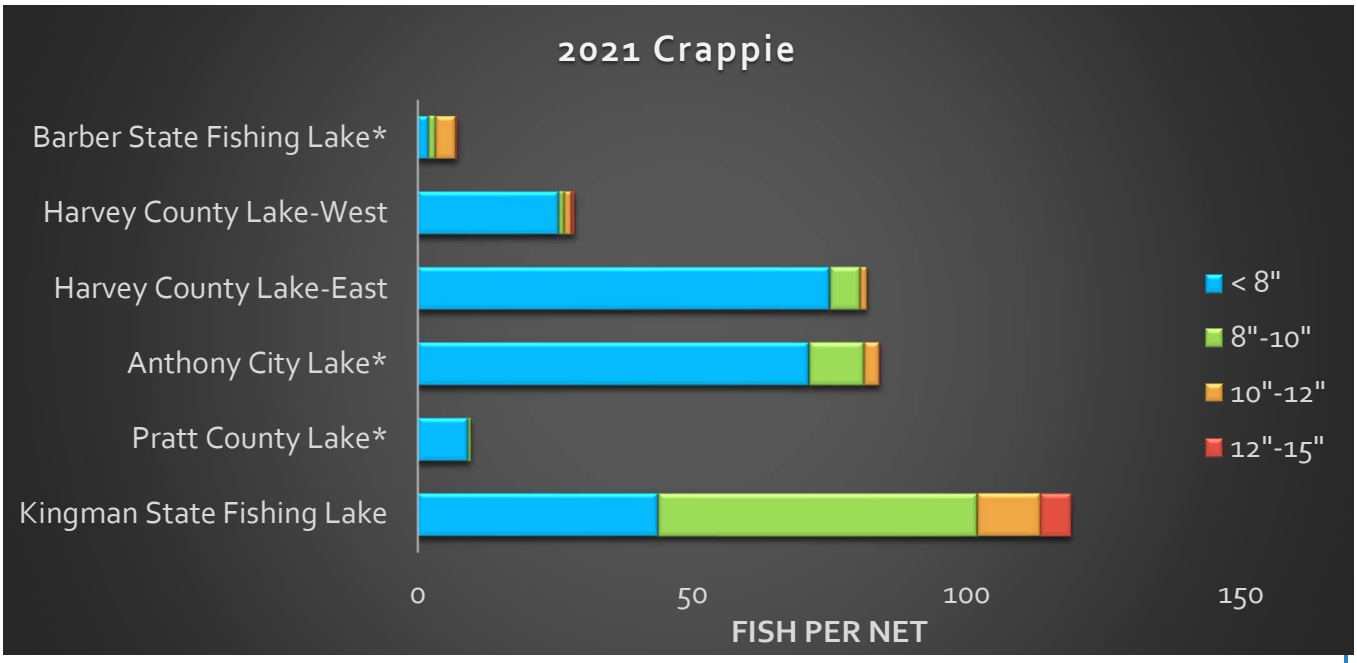


*Figure 1. Catch rates of White Crappie measured by average number of fish caught per net. Catch rates are divided by size class. * White Crappie and Black Crappie combined.*

District Summary: Crappie

The graph above shows the number of Crappie sampled per trap net broken down by size. In previous years, I have only shown the results in Crappie >8" in this graph. However, I wanted to illustrate how much the smaller fish have dominated many systems in recent years. Throughout much of the district Crappie populations are still benefitting from the effects of the 2019 flood. In most lakes, we have seen an increase in abundance. However, growth has been slower than desired, and we are still seeing an abundance of smaller fish that have yet to grow to preferred size. Hopefully, these fish will eventually grow to 10" and above.

SAMPLING RESULTS: Crappie

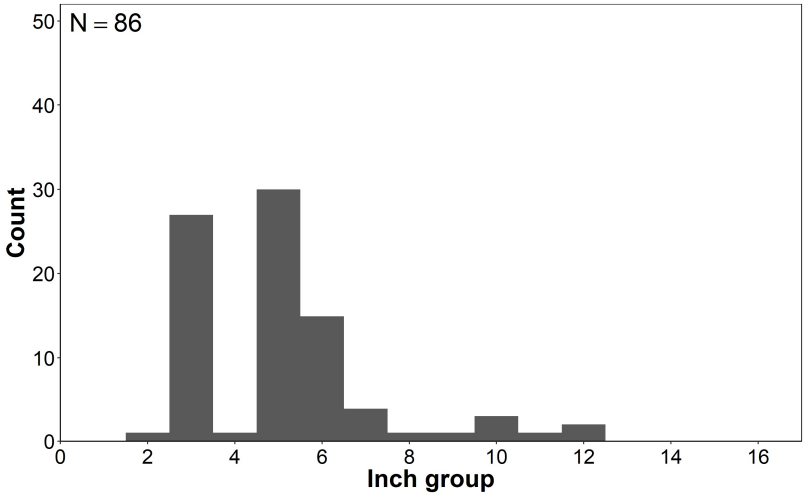


Figure 2. Length Frequency histogram of White Crappie collected at Harvey County West using trap nets in the Fall of 2021.

Harvey County- West Lake

The Crappie at Harvey West continue to be dominated by smaller fish. Although, there are some larger fish, they are few and far between. Catch rates of Crappie did drop in 2021. This could be a sign that they are starting to thin out and we may see some growth. As much as I wish that were the case, I think the reduced catch rates seen in 2021 are a result of variability in sampling. Time will tell if catch rates will remain lower or jump back up to what we've seen in previous years. If catch rates remain lower, growth should follow.

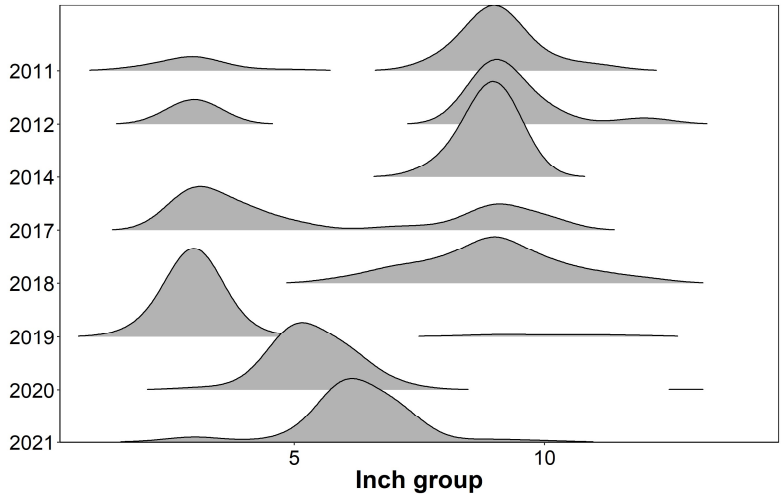


*Figure 3. Ridgeline plots showing size distribution by year of White Crappie at Harvey County East Lake collected via trap nets. *These plots only compare size structure and do not represent numbers of fish*

Harvey County- East Lake

The Crappie in Harvey East produced an extremely large year class in 2019. In Figure 3, you can see the growth of the 2019-year class through the past 3 years. The fish experienced decent growth from 2019 to 2020, but little growth from 2020 to 2021. It was hoped that the 2019-year class would be 7-9" by 2021. Instead, we have seen their growth become slower. We collected some age and growth information from some of the Crappie sampled in 2021. We found that nearly every fish over 5" was from the 2019-year class. This means that some fish have experienced fast growth (reaching 10 inches by age 2), but the majority are growing slower than desired.

SAMPLING RESULTS: Crappie

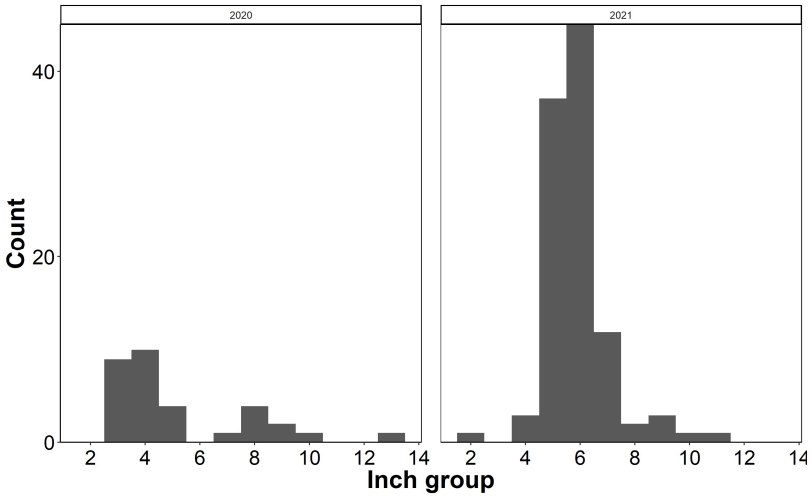


Figure 4. Length Frequency histogram of White Crappie collected at Anthony City Lake using trap nets in the Fall of 2020 and 2021.

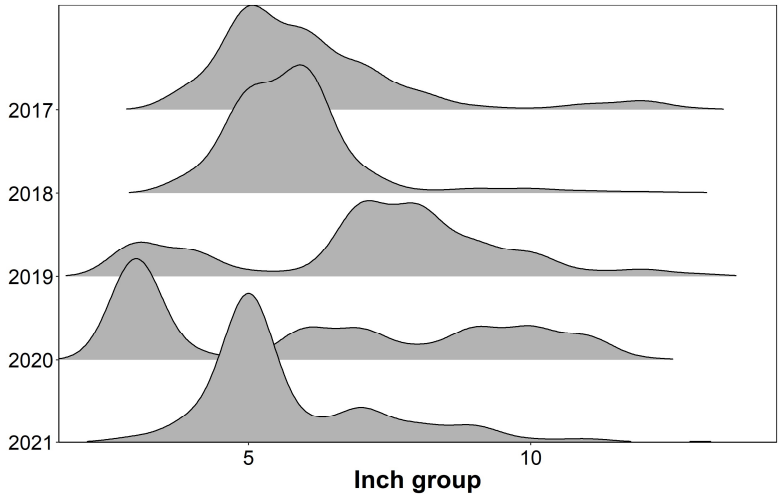


*Figure 5. Ridgeline plots showing size distribution of Black Crappie at Anthony City Lake collect via trap nets by year. *These plots only compare size structure and do not represent numbers of fish sampled.*

Anthony City Lake

White Crappie have shown up at Anthony City Lake. They were first sampled in 2020 at a low relative abundance. Catch rates increased in 2021 with the majority of White Crappie being 5-7" in length. The White Crappie represented 1/3 of the Crappie sampled in 2021. Black Crappie catch rates also increased in 2021. Though most of these fish were stock (5") size. The size structure of Black Crappie continues to fluctuate each year with 2021 being dominated by smaller fish similar to White Crappie. The increase in abundance of White Crappie has increased the relative abundance of Crappie to higher catch rates than previous years. This could limit growth of both species. In lakes that have both species of Crappie, White Crappie usually outnumber the Black Crappie by a wide margin. That is not the case yet at Anthony City Lake, but I suspect that the White Crappie will eventually outnumber the Black Crappie. This is concerning because White Crappie tend to overpopulate in small impoundments. The White Crappie aren't going anywhere so we hope that if they do overtake the Black Crappie, that growth rates and subsequent size structure do not suffer so that anglers may experience quality fishing.

SAMPLING RESULTS: Crappie

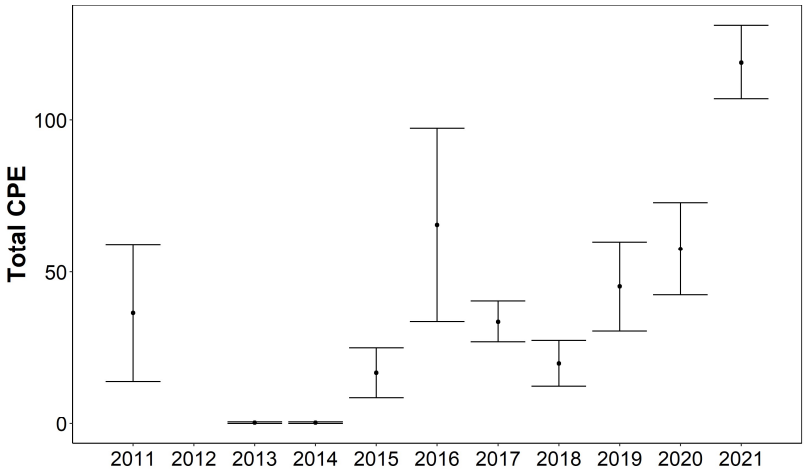


Figure 6. Average catch rates measured as fish per net of White Crappie by year at Kingman State Fishing Lake using trap nets. The vertical bars represent a 95% confidence interval.

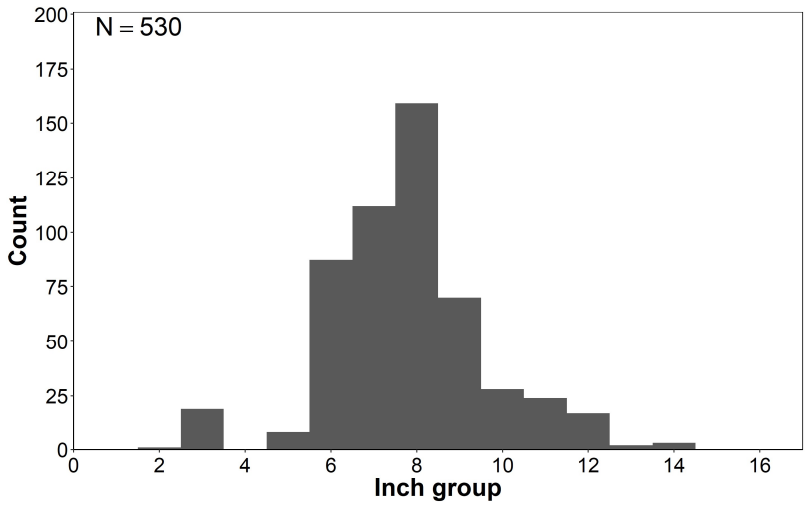


Figure 7. Length Frequency histogram of White Crappie collected at Kingman State Fishing Lake using trap nets in the Fall of 2021.

Kingman SFL

The Crappie numbers at Kingman State Fishing Lake continue to increase. Catch rates nearly doubled in 2021 compared to 2020. The majority of the increase in 2021 numbers was from 6-9" fish. However, there was a decrease in fish >10" in 2021. With the increase in relative abundance and decrease in size structure, the population is trending in the wrong direction. While there are still decent numbers of fish over 10" in 2021, those numbers are likely to continue to decline as the Crappie population starts to overpopulate. Overpopulation and stunted growth are caused by an increase in abundance and a lack of available forage. The high levels turbidity, along with a decrease in apex predators in the system, is likely contributing to slower growth as well. Thus, removal of some of the smaller (6-9") is likely necessary to return the size structure to where we see more Crappie over 10".

Kingman SFL: Channel Catfish

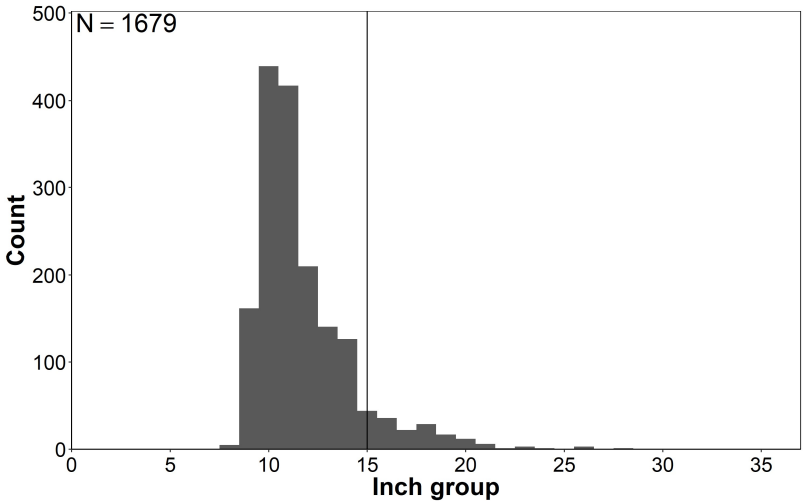


Figure 8. Length Frequency histogram of Channel Catfish collected at Kingman State Fishing Lake using hoop nets in August of 2021. The vertical line represents the 15" minimum length limit.

Channel Catfish- Hoop nets

Catch rates of Channel Catfish in gill nets have been highly variable in recent years. Most fish in gill net samples were small and, in most years, relative abundance was low. In order to get a better sample, we ran Hoop nets in August 2021 and found a shocking amount of small (<15") Channel Catfish. These fish also had low relative weights indicating they were in poor condition. All of these factors point to an overpopulated and stunted population. We collected otoliths to assess their age and growth. The results of the otolith processing are still pending. However, what we have seen so far indicates that the fish are indeed stunted. Also, it is clear that there is an overabundance of small catfish in the lake. Immediately after sampling, the stockings for 2021 were cancelled. Stockings are planned to resume in 2022 at a reduced rate depending on future samples.

Kingman SFL: Nuisance species

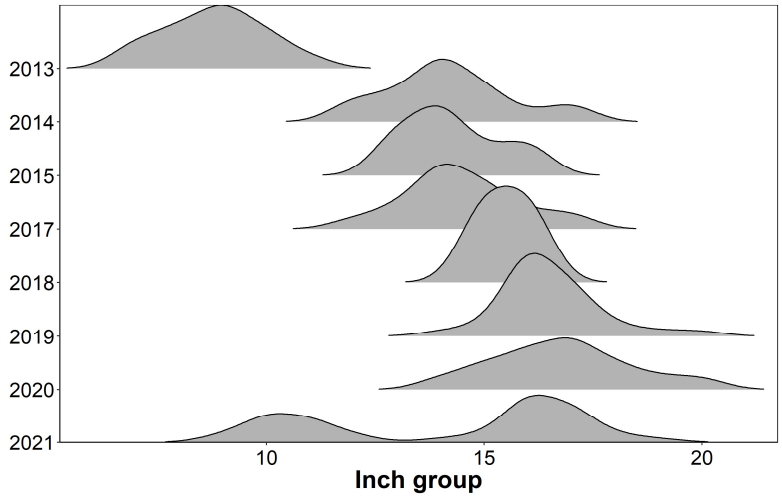


*Figure 9. Ridgeline plots showing size distribution of Common Carp at Kingman State Fishing Lake collect via gill nets by year. *These plots only compare size structure and do not represent numbers of fish*

Common Carp

The Common Carp became re-established after the renovation in 2013. The carp have been adding to the turbidity problem and decreasing vegetation in the lake. It appears that the population has consisted of a single year class until 2021. A new cohort was found in the 2021 gill net sample indicating that the carp had a successful spawn. The number of carp in the system will make it extremely difficult for the turbidity and vegetation situations to improve.

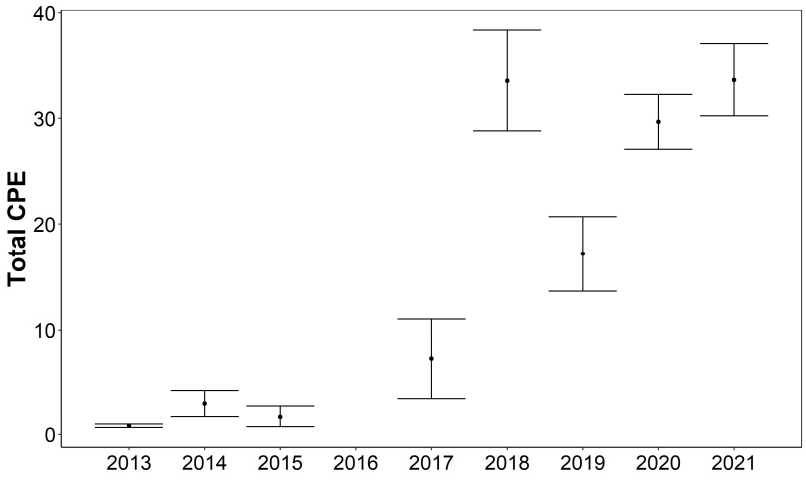


Figure 10. Average catch rates measured as fish per net of Gizzard Shad by year at Kingman State Fishing Lake using gill nets. The vertical bars represent a 95% confidence interval.

Gizzard Shad

A commercial fisherman had been attempting to remove Gizzard Shad from the Lake with no success. The lake remains crowded with large (12"+) shad. These shad are too big for any predator in the lake and use up oxygen as well as increase turbidity. It is clear that removal of shad and carp will not be possible without a complete renovation. Meaning, we will need to drain the lake, refill it, and re-stock it. If the lake is re-stocked with an abundance of large predators, there may be a better chance that nuisance species will not take over as they have in recent years.

SAMPLING RESULTS: Cheney reservoir

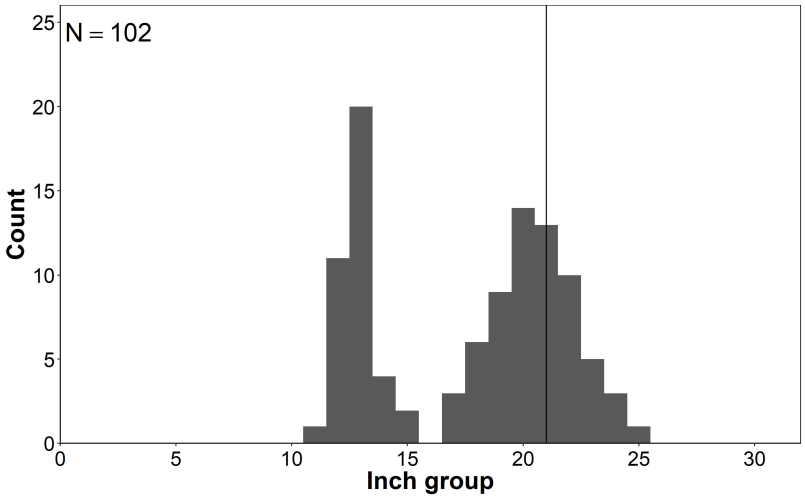


Figure 11. Length Frequency histogram of Wiper at Cheney reservoir using gill nets during the Fall of 2021. The vertical line represents the 21" minimum length limit.

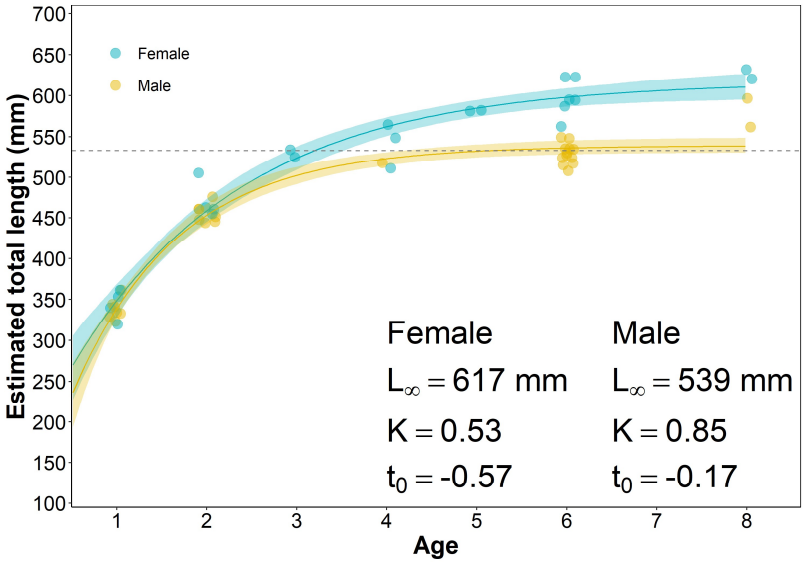


Figure 12. Von Bertalanffy growth curve showing predicted length at age and observed length at age for Male and Female Wiper collected at Cheney Reservoir using gill nets in the Fall of 2021. The solid line represents the predicted length at age. Shaded area represents a 95% confidence interval. Dots represent individual fish. The dotted line represents the 21"(533mm) minimum length limit.

Wiper

Wiper numbers continue to slowly decline each year. Although, 2021 was not significantly different than 2020. Looking at the size structure shown in Figure 11, we see that there are two main cohorts within the population. Of the larger cohort, about half of which are above the 21" minimum length limit. There have been more legal-size fish last few years than years prior. While the numbers of Wiper have been down, the chance to catch a large fish is good. There were a couple of reports of fish over 10lbs caught in 2021.

Age and growth information was collected on Wiper in 2021. This will tell us how fast the fish are growing, how long they may live, and even give us an estimate to how many die each year. If you look at Figure 12, you can see that female Wiper grow slightly faster than males and typically reach larger sizes on average. The oldest age observed was 8 for both sexes. Females may reach 21" by age 3 while it may take 5-6 years for males to reach 21". Some males still had not reached 21" at age 6 (2015-year class). It is estimated that only 13% of wiper die each year. This estimate may be low due to the number of age 6 fish in the sample. The number of age 6 fish is somewhat concerning as they are nearing the end of their assumed life span. So, we could see a rather quick decline of larger fish as these 2015 fish die off. The good news is that a large proportion of the fish were age 1 or 2. So, we have young fish to replace the older fish. These 2019- and 2020-year classes will reach 21" in 1-4 years depending on sex and individual growth.

SAMPLING RESULTS: Cheney reservoir

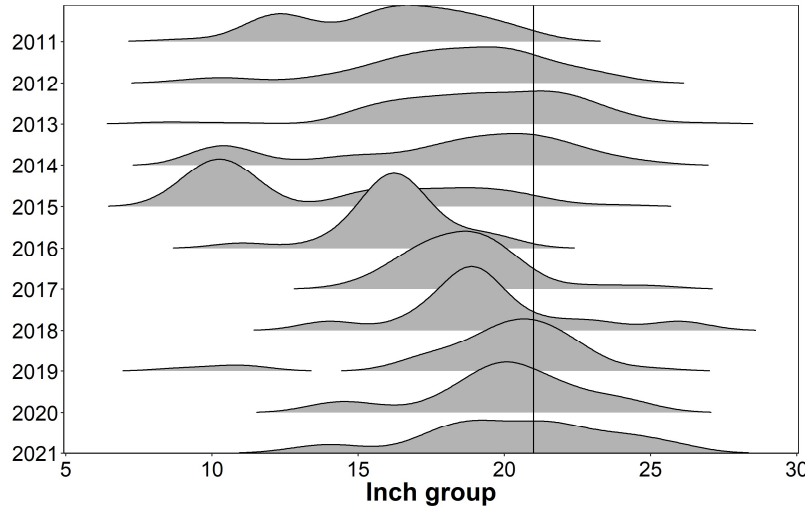


*Figure 13. Ridgeline plots showing size distribution by year of Walleye at Cheney reservoir using gill nets. The vertical bar represents the 21inch minimum length limit. *These plots only compare size structure and do not represent numbers of fish sampled.*

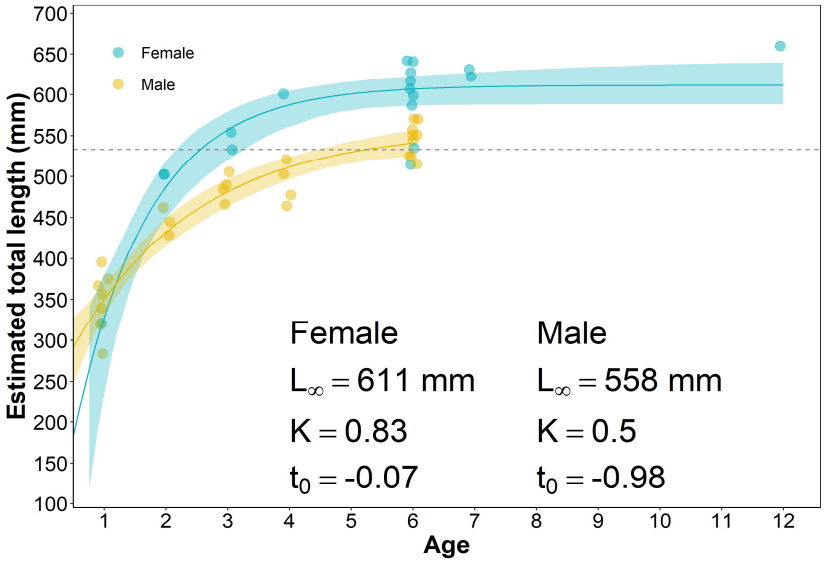


Figure 14. Von Bertalanffy growth curve showing predicted length at age and observed length at age for Male and Female Walleye collected at Cheney Reservoir using gill nets in the Fall of 2021. The solid line represents the predicted length at age. Shaded area represents a 95% confidence interval. Dots represent individual fish. The dotted line represents the 21"(533mm) minimum length limit.

Walleye

Like the Wiper population, the Walleye size structure has been skewed towards larger fish in recent years. Catch rates have also declined the past five years. While Walleye have been few and far between, the ones we do come across have been good sized.

Age and growth information was also collected Walleye in 2021. Figure 14 shows a vast difference in growth rates between male and female Walleye. Females may reach 21" by age 3 while it takes males about 6 years. Some males were still below the 21" minimum at age 6, which was the oldest male we sampled. There was one female that was 12 years old. As with Wiper, the age 6 (2015) year class was the strongest of the fish sampled. We presume that a typical life span of a Walleye would be 7-9 years. When the 2015-year class starts to die off, we could see a decline of larger fish. It has been difficult to stock the number of Walleye needed to sustain a decent fishery in recent years. In 2020, we started stocking intermediate sized Walleye. Their recruitment has not been enough to bring the walleye numbers up to desired levels. However, we did see a good proportion of age 1 (2020) fish in the sample. Because we cannot produce the Walleye needed to improve the fishery, Saugeye will be stocked along with Walleye. Saugeye have been known to have a higher survivability than Walleye and may give us a chance to increase percid numbers in the lake and help get the White Perch under control.

SAMPLING RESULTS: Cheney reservoir

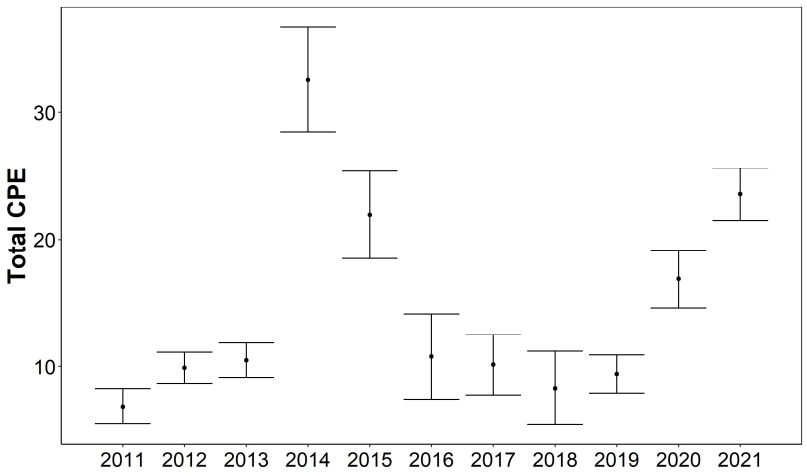


Figure 15. Average catch rates measured as fish per net of White Perch at Cheney reservoir using gill nets during the Fall of 2021. The vertical bars represent a 95% confidence interval.

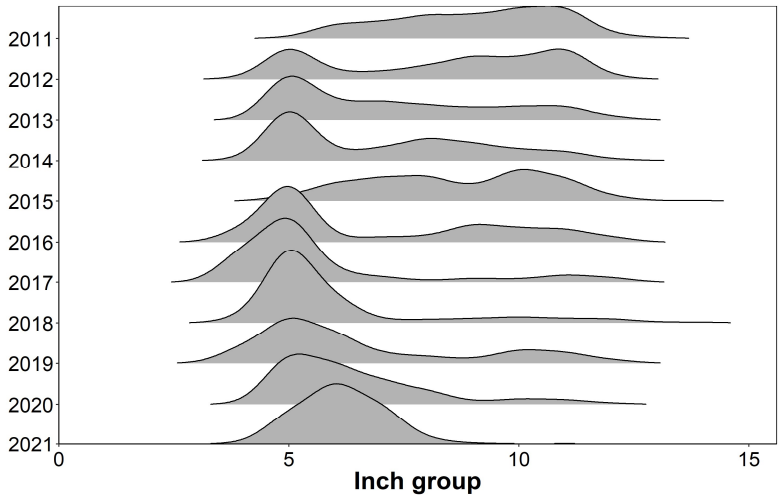


*Figure 16. Ridgeline plots showing size distribution of White Perch at Cheney reservoir using gill nets in the Fall of 2021. *These plots only compare size structure and do not represent numbers of fish sampled.*

White Perch

Catch rates of White Perch in 2021 were the second highest seen in the last 10 years (Figure 15). The flood in 2019 has likely boosted their numbers. The size structure has been dominated by small fish the last five years. The over abundance of White Perch means competition for all other predators. Especially when those predators are smaller sized. Since Walleye and Wiper numbers are down, the White Perch aren't being kept in check. The immediate future does not look good for White Perch in Cheney. Nearly all fish sampled in 2021 were less than 9" and catch rates continue to climb. An increase of large predators is needed in order to thin the perch out. If and when the numbers of White Perch decline, then we should see increased growth and a size structure that has more fish over 10".

SAMPLING RESULTS: Cheney reservoir

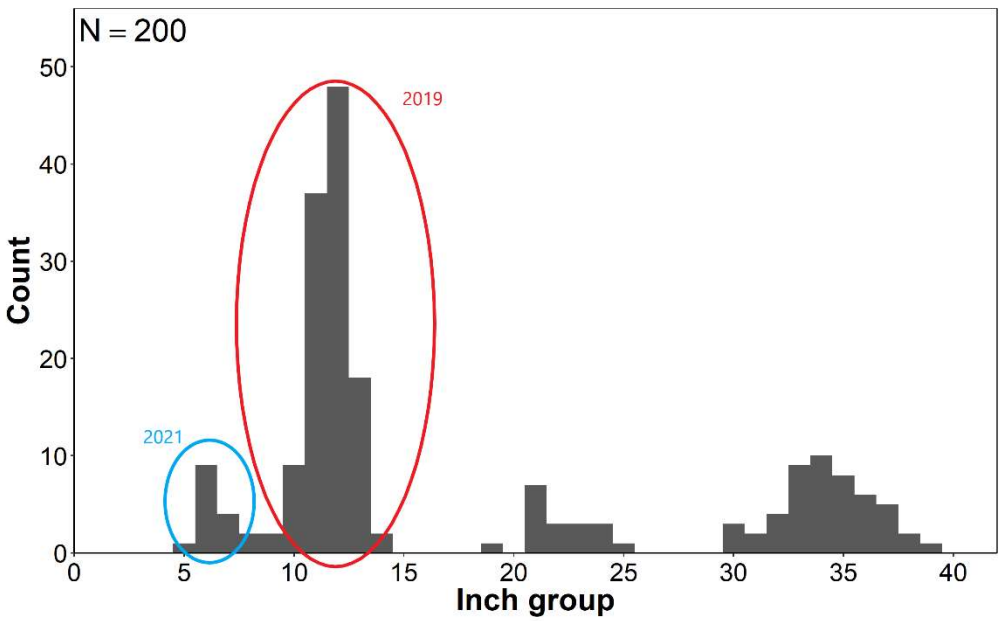


Figure 17. Length Frequency histogram of Blue Catfish collected at Cheney reservoir with all gear types in 2021.

Blue Catfish

Blue catfish were sampled with multiple gear types in 2021. The most common sampling method is with electrofishing. Electrofishing for Blue Catfish in Cheney is fairly new, but we had the highest catch rates yet in 2021. Most of the fish sampled with electrofishing in 2021 were from the 2019-year class. In Figure 17, you can see that the 2019-year class ranges from 9-14". As I've mentioned in previous new letters the 2019-year class is the first natural year class of Blues Catfish in Cheney to date. All other fish have been stocked. In 2021, Blue Catfish were stocked again. These fish showed up in our fall gill netting and ranged from 4-7". Electrofishing in 2022 will show how well these fish survived the winter. We now currently have the capabilities to spawn Blue Catfish in our own hatcheries. This will allow us to stock Cheney as we see fit. In order to monitor natural recruitment as well as growth, stockings will be alternated every 2-4 years as long as natural recruitment is not occurring. Alternating stockings would allow us to detect a natural year class if fish spawned on a year that was not stocked. If the population is able to be sustained either via stockings or natural recruitment, we would then like to propose new regulations. A protected slot limit or limited creel on larger fish would allow harvest of smaller fish while protecting the larger trophy fish which may also reproduce and contribute to the population during the right conditions.

Flathead study: Lake Afton

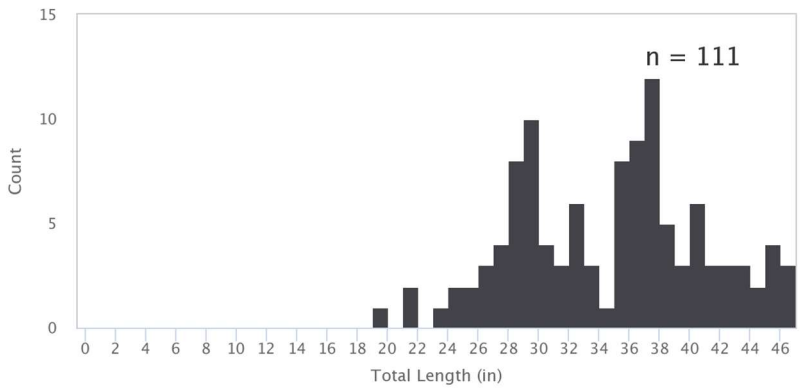
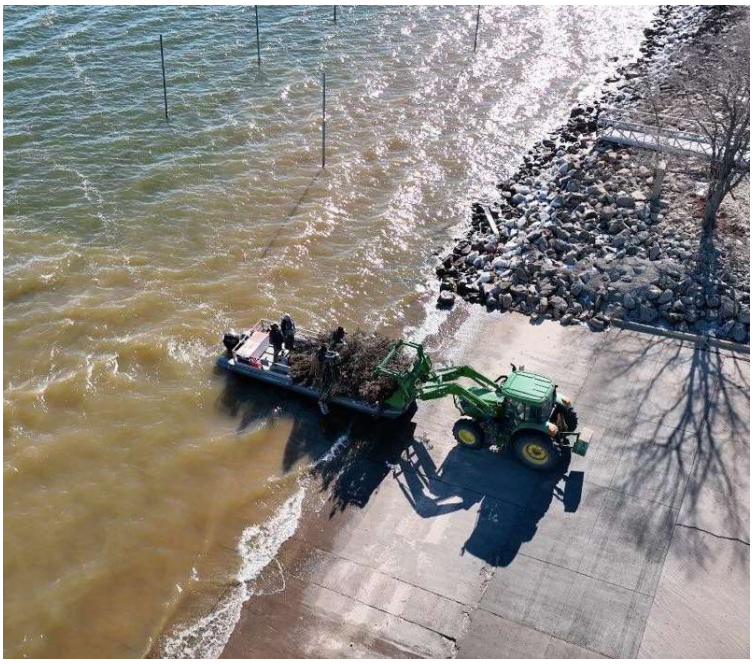


Figure 17. Length Frequency histogram of Flathead Catfish collected at Lake Afton with electrofishing in 2021.

Flathead Research

As a part of a statewide study, the Flathead Catfish population at Lake Afton was sampled several times in 2021. The objective of the study was to learn more about the Flathead populations in small impoundments in Kansas. Compared to the other water bodies in the study, Afton had average catch rates of Flatheads. However, there were more large fish in Lake Afton. We estimated that there roughly 450 Flatheads in the lake. The Flatheads in Lake Afton had faster growth rates than most other populations and some fish lived to be over 20 years old. While this population has more larger fish than some of the other lakes in this study, these fish are long lived and thus may be susceptible to overharvest. We are looking into possible regulations to preserve this population. This study is just the beginning as we learn more about this species. Using the information we learned, we will be able to sample Flatheads more efficiently and gain a better understanding on how to effectively manage them.

Cheney Habitat Project



Cheney brush piles

Thanks to the help of some dedicated Volunteers, we were able to sink trees at several locations dropping several waypoints around the Southwest and central part of the lake. These should provide habitat for fish and locations for anglers to find fish throughout the year. The coordinates for each waypoint are listed below as well as a link to an online file of fish habitat locations. I want to thank Ted Webster, Adam Swisher, Casey Watkins, Spencer Putman, Jake Wright, Mitchell Schwartz, Ken Temaat, Clark Besthorn, Elizabeth Eney, the Kansas Walleye Association, DTF outdoors, and Mid Kansas Marine (who provided lunch). This would not have been possible without them!

Brush pile coordinates:

N	37°	43.381		W	97°	49.117
N	37°	43.381		W	97°	49.151
N	37°	44.890		W	97°	49.390
N	37°	44.874		W	97°	49.383
N	37°	44.837		W	97°	49.357
N	37°	44.716		W	97°	48.722
N	37°	44.820		W	97°	48.814
N	37°	44.724		W	97°	49.237
N	37°	44.957		W	97°	50.429
N	37°	44.403		W	97°	50.067
N	37°	44.481		W	97°	50.126
N	37°	44.378		W	97°	50.024
N	37°	43.192		W	97°	49.062
N	37°	43.204		W	97°	49.050
N	37°	43.246		W	97°	49.072
N	37°	43.720		W	97°	49.244
N	37°	43.359		W	97°	49.114
N	37°	43.699		W	97°	49.501
N	37°	43.689		W	97°	49.243
N	37°	43.353		W	97°	49.103

Link to online file of fish attractors:

https://ksoutdoors.com/KDWPT-Info/Locations/Hunting-Fishing-Atlas/Fishing-Atlas/GPS-KML-Information-Files/Google-KMZ-file-of-Fish-Attractor-GPS

Acknowledgements

I would like to thank Kane Thimmesch, Alexis Martin, and Chasity Barnes (my interns) for their help with sampling as well as everything behind the scenes that made sampling possible. I would like to thank David Breth, Jeff Conley, and James Goff for their help with sampling this past Fall.

Spread the word!

If you know someone who would be interested in receiving this newsletter, they can do so by clicking here:https://ksoutdoors.com/KDWP-Info/News/Newsletter-Request-Forms and then selecting Cheney Fishing District. If you would no longer like to receive this newsletter, you can do so here: https://ksoutdoors.com/KDWP-Info/Contact-us and put "unsubscribe Cheney District Fisheries Newsletter". If you would like to see something different in future newsletters, please feel free to contact me.

Go rip some lip!

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