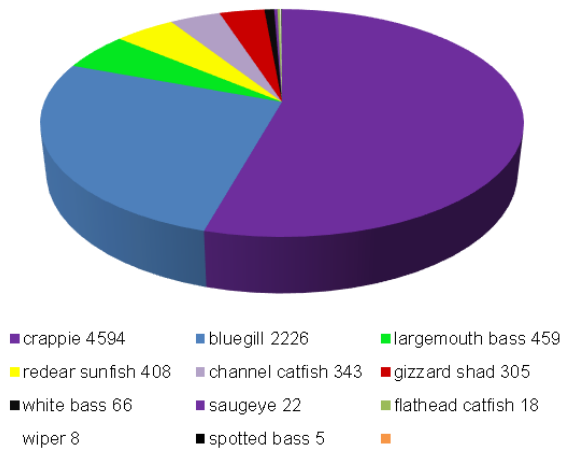


Fall River/Toronto Fisheries District Newsletter

Carson Cox, Fisheries Biologist

**Fall River/Toronto Fisheries District
 Fish Sample Composition 2021**



A total of 8,446 fish were sampled in the Fall River/Toronto fisheries district in 2021. Species composition and total catch were very similar to last year. A total of 13.7 hours were spent electrofishing. Sixty-seven trap nets and 60 gill nets were set. This does not count effort spent assisting in other districts or the walleye spawn. These numbers are way down for gizzard shad, white bass, and flathead catfish due to flooding flushing fish out of lakes. The low variation in catch composition over time showed that effort was adequate for fish management decisions.

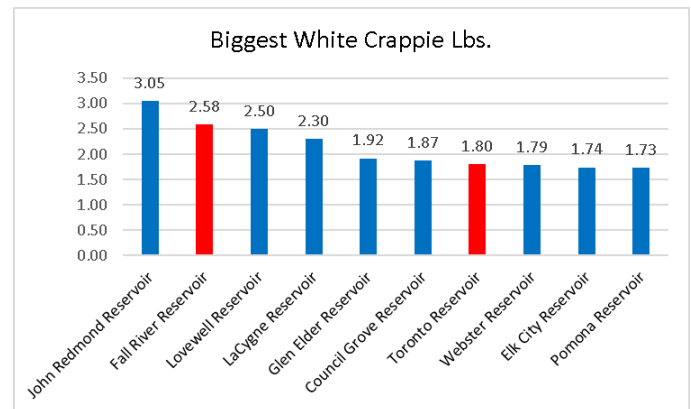
Fall River/Toronto Fisheries District Spring 2022 Fishing Species Forecast

White crappie are the most popular species sought in spring. Toronto and Fall River Reservoirs have very good white crappie populations this year, but not as robust since the flood of 2019 flushed large numbers out of the reservoirs. There are still plenty of large crappie to be caught. Fall River had the second largest crappie 2.58-lbs. caught in fall test nets, and Toronto had the seventh largest crappie 1.80-lbs.

Look for spawning crappie this spring first in the river and creeks running into the reservoirs. They warm up faster than the reservoir. They will spawn over gravel in shallow water, but really like to spawn on flooded

vegetation and roots should the opportunity present itself. Watch for rising water levels in the feeder creeks and rivers. The flowing water really triggers their spawning migration to shallow water. They will begin spawning in April and continue into late May lower in the reservoir.

Four Fall River/Toronto district lakes made the top 10 for white crappie this year and have outstanding fishing opportunity. Moline New City Lake ranked second for crappie over 12-inches and 8th for fish over 10-inches. Not many anglers are willing to drive that far to fish the lake, so this might just be a hidden gem. Eureka Lake was ranked 6th for crappie over eight-inches. It also has a heated fishing dock for winter fishing. Howard Lake was ranked 7th, 5th, and 8th for crappie over eight-inches, 10-inches, and 12-inches. This lake warms up early in April and has lots of roots along the shoreline vegetation for crappie to spawn on. It's a great lake to fish on a windy day due to its high bluffs.





2.58 lbs. white crappie from Fall River Reservoir

1.01-lbs. redear sunfish from Lyon SFL

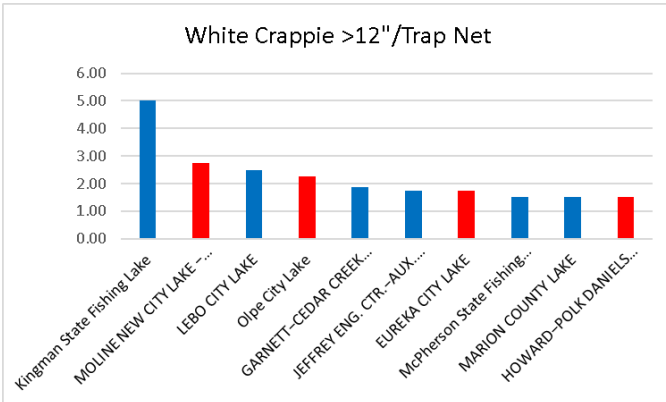
White Crappie Stats	Fall River	Toronto
Total Catch	1140	991
Stock Catch (#>5")	431	256
Units of Effort (#nets)	16	15
Stock CPUE (#>5"/net)	27	24
Sub-Stock CPUE	44	42
Percent of catch (5-8 inches)	77	79
Percent of catch (8-10 inches)	13	12
Percent of catch (10-12 inches)	9	6
Percent of catch (12-15 inches)	1	3
Percent of catch (>15 inches)	<1	0

2021 fall trap net catch

Moline Old City Lake also has extremely clear water, but no zebra mussels, and a high-density bass population (panfish option). It ranked 4th for redear over seven-inches, 6th for fish over nine-inches, 6th for fish over 11-inches, and had the 10th largest redear sampled in 2021 at 0.60-lbs. If you are going to try to catch one of these lunkers, you will need to use very light line and stealthy tactics to not spook them in the clear water.



7.43-lbs. saugeye from Madison Lake



Madison Lake ranked in the top ten for saugeye this year. It produced the second largest saugeye at 7.43-lbs. sampled. The lake ranked 11th, ninth, and eighth, for saugeye over 14-inches, 18-inches, and 22-inches, respectively. Creel census showed that anglers harvested less than one fish per acre. Fishing pressure at the lake was well below the 25th percentile in Kansas, making this an overlooked honey hole for saugeye.

Two lakes in the FRD ranked in the statewide top ten for redear sunfish. Lyon State Fishing Lake ranked first for fish over seven-inches, nine-inches, 11-inches, and biggest redear sunfish at 1.01-lbs. Three factors likely make Lyon SFL great. First was the high density bass population keeping small redear densities in check. This is referred to as a pan fish management option in fisheries text books. Second was the clear water which allowed redear to sight feed effectively. Third is the abundance of prey for redear in the form of zebra mussels. Redear georged themselves on zebra mussels and grew huge. They're as big as nice size crappe.

Typically, Toronto and Fall River Reservoirs white bass fisheries rank very highly. However, the unprecedented flood of 2019 flushed most fish out of the reservoir. Furthermore, untimely water releases in 2020 and 2021 inhibited the spring spawn. Nevertheless, Fall River and Toronto Reservoirs ranked seventh and eighth for largest white bass at 2.71- and 2.64-pounds, respectively. The chances of catching a three-pound fish during the spring spawning run is good. These lunkers will be schooled up in the deep holes below the riffles in March in preparation for the spawn. The easiest way to catch them is with a jig in the riffles during the first water inflow event in April. Popular riffles are at the confluence of Otter Creek and Fall River and upstream at the narrows on both Fall River and Otter Creek. The Walnut Creek riffles on Toronto Reservoir are difficult to access. The

secondriffles on the Verdigris River in just above the gravel road wildlife area bridge north of Highway 54. The first riffle below is on private property.

Not many anglers pay much attention to bluegill sunfish unless they are teaching kids how to fish. However, three lakes; Lyon SFL, Moline Old, and Howard City Lakes, rank in the top ten and attract dedicated bluegill anglers from as far away as Kansas City and Wichita. Many bluegill anglers like to use a fly rod and both Lyon State Fishing Lake and Moline Old City Lake have water transparencies exceeding 10-feet. Big bluegills are very wary and spook easily in the clear water making catching them a challenge.

Big catfish abound in the Fall River/Toronto district. Toronto and Fall River Reservoirs tied for second for channel catfish over 24-inches and ranked 7th and first, respectively, for catfish over 28-inches. There was a 14.54-pounder netted at Fall River, the second largest this season. Toronto produced a 10.44-pounder that ranked ninth largest. Among lakes, Eureka ranked second for both preferred and lunker sized catfish, while Lyon SFL and Olpe ranked 4th and 9th for biggest fish. While, Lyon SFL produced a 16.2-pounder, many anglers report catching fish over 20-pounds, even on fly rods.



Not quite a man eater but man sized flathead electrofished from Cheney Reservoir



24% of Largemouth bass at Lyon SFL are over 18-inches

Lyon State Fishing Lake made the top ten list for high density bass populations in Kansas. It was ranked ninth. Bass over the length limit of 18-inches are abundant. However, catching them can be challenging due to the extremely clear water. It's easy to spook these wise old bass. Finessing a plastic worm or crawdad through the weeds would be productive. Top water fly fishing for bass in the clear water lake is also very exciting.

Particle Size

Zebra mussels were first released into El Dorado Reservoir in 2003. Kansas Department of Wildlife and Parks doesn't know why or who released them. Over the past 19 years they've spread across the state to 35 other lakes. Fisheries biologists take great effort to make sure we are not the ones spreading them. We analyze everything we do through HACCP protocols to make sure to stop contamination.



Spawning walleye eggs into pan before fertilization.

The next field activity fisheries biologists will undertake is the walleye spawn in mid-March through mid-April. We will collect walleye males and females in trap nets and gill nets along the dam. We put the collected

fish in tanks on the boat. When we get to shore, we rinse the fish and ourselves with filtered water. On shore, we hold the rinsed fish in new tanks with filtered water. Each fish is rinsed a third time and dried before handling for spawning into clean dry pans. You are welcome to come watch this process at the Jayhawk Marina at Hillsdale Reservoir.



20-micron pleated filter



5-micron polypropylene spun filter

We treat all water as though it contains zebra mussel veligers. Veligers are the microscopic reproductive life stage. Veligers are mixed in with the plankton. Veligers are as small as 50-microns. Before using lake water, we have to filter out all plankton and particles. Initially we tested a 20-micron pleated spa filter. Despite the fact that it was less than half the size necessary to filter the veligers, microscopic analysis revealed that it was only about 99-percent effective. Not good enough. We theorize that the ends weren't perfectly sealed, and some must be getting by. We then added a second 5-micron polypropylene spun spa filter after the first filter. The 5-micron filter would plug quickly with plankton if we used it alone. Also, the ends seal to the cartridge case more efficiently. Now our water is 100-percent veliger free.



Double water filter

Every time we haul fish in tanks, we use double filtered water. In addition, the water and fish are treated with 750 mg/L potassium chloride for one-hour prior to a 25 mg/L formalin treatment for two-hours for a total treatment time of three-hours before stocking. This is just a brief description of efforts taken to stop the spread of zebra mussels. All the actual steps and equipment cleanings we do would take too long to describe here but is fully documented in the HACCP plan we follow.

After walleye spawning, comes electrofishing season, then netting season. We use different boats and equipment. Each must be drained, cleaned, power washed with hot water, and dried before moving to a new lake. An adult zebra mussel that's attached to a boat or piece of equipment can survive up to seven days out of water. One drop of lake water can hold enough veligers to start a new population. Fisheries biologists take decontamination seriously. In previous newsletters about Lyon State Fishing Lake, I described how unscrupulous anglers stocked gizzard shad, white bass, and saugeye along with water containing zebra mussels. Let's all do our part to stop the spread and protect the lakes we love to fish.

Great Kansas Fishing Derby

I hope you had the opportunity to fish for a tagged fish during the Great Kansas Fishing Derby last spring. Lyon State Fishing Lake was one of the lakes with tagged fish. There were 35 lakes in Kansas where fisheries biologists tagged fish worth a reward. The contest ran 90 days from May 1 thru July 31, 2021. It was advertised on Facebook, KDWP News Release, and signs in KDWP offices and lake information boards. This was the first year for the fishing derby.

Fisheries biologists tagged a total of 515 fish. The number of fish tagged at each lake was determined by having a sponsor provide a prize for the angler returning the tag. There were 28 sponsors who provided prizes worth \$20-\$250. Anglers caught 105 (20-percent) of the tagged fish. Lyon SFL had 14 tagged fish, and two of those fish were caught and turned in for a prize. Following is a list of species of fish tagged and the number caught:

2021 Great Kansas Fishing Derby

Species	Tagged	Caught
channel catfish	211	59
black bass	91	21
crappie	85	11
bluegill/sunfish	60	6
white bass/wiper	30	3
drum	5	2
walleye	14	2
flathead catfish	9	1
common carp	6	0
bullhead	4	0
TOTAL	515	105

- PARTICIPATING LOCATION -



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MAY 1 - JULY 31, 2021

1 GET A KANSAS FISHING LICENSE	2 CATCH A TAGGED FISH AT A PARTICIPATING LAKE	3 REDEEM YOUR PRIZE
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edge of the range, so it doesn't have ideal conditions. Limited spawning habitat may be the reason. Northerns spawn on vegetation. No nest is constructed. They release their adhesive eggs on the vegetation. The eggs hatch in about 10 to 14 days.

When I was attending Colorado State University in Fort Collins to get my Master of Science Degree, my professor, Dr. Steve Flickinger, taught me how to spawn northern pike. Gill nets were set in College Lake to collect the brood fish. Fresh cedar boughs were cut and anchored in a half-acre culture pond for the pike to attach their eggs. The water was clear so we could see the eggs attached to the cedar boughs after spawning. The class drew lots to see who would get to catch the brood fish out of the pond after spawning so they wouldn't eat the fry. I didn't win, but I was amazed how easily the winner using a red and white dare devil spinner caught the fish while we watched. This method worked perfectly.

Northern pike were first stocked into Lyon SFL in 2014 to reduce overabundant largemouth bass and add a trophy predator. Fisheries biologists in western Nebraska don't like northern pike because they eat too many bass despite over abundant sunfish. We acquired the 6,750 northern pike fry (50 per acre) through a fish trade with Nebraska Game and Parks.

After just two years in Lyon SFL, northern pike reached quality size (21- to 28-inches). Fish condition was very high at 104, indicating abundant forage for northern pike. Although I never sampled more than one pike per year in gill nets, personal communication with anglers reported several catches of similar size pike each season. Many showed me pictures and video of the pike they caught like the one below.

Northern Pike Spawning Habitat

It's about time for northern pike in Lyon State Fishing Lake to spawn. Pike are the first fish to spawn. They spawn soon after ice out when the water temperature is still in the 40's. Lyon and Kingman State Fishing Lakes are currently the only two populations of northern pike in Kansas. Historically, many more Kansas lakes contained northerns.



Lyon SFL northern pike on 22-inch gold ruler



22-inch northern pike from Lyon SFL

It appeared that recruitment from the initial northern pike fry stocking was quite low until 2019. The public lands manager did a cedar tree removal project along the shoreline of Wilhite Cove. Some of the cedar trees fell into lake and could not be removed. Northern pike were observed swimming away from the flooded cedars. Apparently, they were spawning on the cedars because small northern pike (22-inches) were once again reported to be caught last year. The green foliage from those cedars is gone now. As soon as the ice is gone off the lake and I can launch the boat, I will install eight large cedar trees in hopes of repeating the northern pike spawn.

Lyon SFL has a low-density northern pike population. The length limit is 30-inches, and the creel limit is two-fish. I don't believe that overharvest is the cause of the low abundance. Lyon SFL is on the southern



Northern pike spawning habitat ready to sink at Lyon SFL

If you catch a norther pike at Lyon SFL, I'd like to know about it and what size it was. My contact information is at the top of the newsletter. Many anglers described and I have personally witnessed northerns hanging around brush piles and ambushing fish near the surface. This appears to be a favorite feeding pattern (ambushing prey from below). If you see this, try casting a spinner or minnow above the brush pile. As always in Lyon SFL, be stealthy because fish spook easily due to the clear water. Good luck fishing.

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Kansas Department of Wildlife and Parks

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