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## Fall River/Toronto Fisheries District Newsletter

### Lyon State Fishing Lake Skyline 2020

The skyline at Lyon State Fishing Lake is changing in 2020. Southern Power is erecting 62 wind generators south of the lake. They are scheduled to be completed by April 2020. Anglers can see about two dozen of them along the horizon while fishing at the lake. I've heard people say they are very loud. I can't confirm that. The turbines were turning the day I was at the lake taking pictures and I couldn't hear them. I drove up to one of them and could only hear a slight whoosh as the blade tip passed by.



*View of windgenerators across Lyon SFL Dam*

Kansas ranked fifth behind Texas, Oklahoma, Iowa, and California for wind generation. However the amount of power generated by each windmill in Kansas ranked second. Only North Dakota had more wind than Kansas. Kansas had 35 wind farms with 2,795 windmills. In 2018, 36 percent of electricity in Kansas was produced by wind.

Each wind generator produces 1,022 megawatts of electricity per month. My total electric house uses about 0.2 mega watts of

electricity per month. If you do the math, that means that each wind generator powers 5,110 houses like mine. These wind generators are a great improvement over the one that my grandparents had. It only charged a car battery that supplied electricity for the house. They used it until electric lines were ran to their farm in Chase County in 1964. At least if the wind is blowing too much to put a boat on the lake, anglers could be solaced by knowing that electricity is being produced.



*View of windgenerators across Lyon SFL*

### Zebra Muscles Found at Lyon State Fishing Lake

One of my job duties as a fisheries biologist is to monitor the lakes I manage for zebra mussels. I do this by taking a plankton tows in June. That's when zebra mussel veliger production peaks. Densities as high as 1,000 veligers per gallon of water have been reported in Kansas. The contents of the plankton tows are preserved in alcohol and sent off to a lab to be inspected under a microscope. In June

2019, the sample I collected from Lyon SFL came back positive.

Aquatic Nuisance Species Coordinator Chris Stephen and his team went to the spot where I took the plankton tows and began to search for adult zebra mussels. In less than one hour, they found some. We immediately posted the lake with signs warning people not to move water or fish from the lake.

Judging by the size of the adult shells, it was likely that the zebra mussels were introduced the previous year in 2018. Two adult gizzard shad were sampled while electrofishing in May and numerous dead juvenile gizzard shad were observed in the water near the north entrance pier. The lake didn't contain gizzard shad prior to this. Local waters containing gizzard shad also contain zebra mussels. It seemed likely that zebra mussels were introduced into the lake with the bait fish.



*Native pond mussel with attached zebra mussels from Lyon SFL*

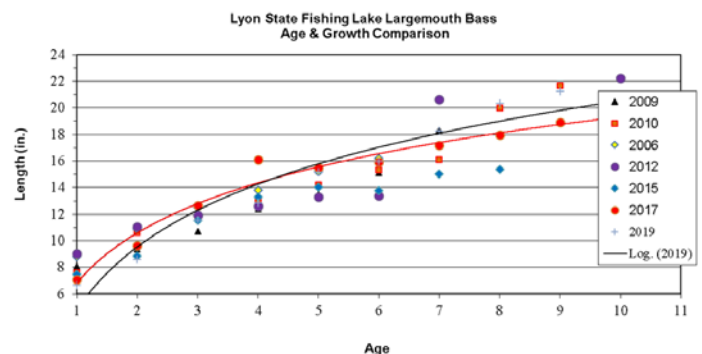
Zebra mussels will alter the fish population at Lyon SFL. They will consume zooplankton, the primary forage base for small fish. Nearly a half million individuals may grow on each square yard of substrate. A single individual can filter one liter of water each day, and a colony covering one square yard of substrate can filter 47.6 million gallons of water per year. In Lyon State Fishing Lake, it would only take a 139 ft<sup>2</sup> size colony to completely filter the entire 616 million gallons of water in the lake in one year, removing the plankton in the process. In Lake Erie, zebra mussels resulted

in a 95 percent reduction in prey fish biomass in 20 years.

Zebra mussel filtering may increase water transparency. With more light penetration, aquatic weeds will grow deeper and become more dense. Dense vegetation will pose a problem for anglers. Depleted plankton has also led to blue-green algae blooms which can cause fish kills. By consuming vast amounts of phytoplankton, zebra mussels increase phosphorous, an essential nutrient of both phytoplankton and blue-green algae. Less phytoplankton means more phosphorous available for blue-green algae.

Dense aquatic vegetation also provides too many hiding places for small fish. When too many small fish are in a population, there are too many mouths to feed. Small fish go hungry and don't grow. Stunted fish populations are of little interest or benefit to anglers.

Lyon SFL was showing great improvement in sportfish growth. Eleven percent of bluegill sampled in 2019 were over eight inches, the largest percent in five years. Ten and 12 inch crappie were also at an all time high. The number of largemouth bass over 15 inches was 18 percent and the number over 18 inches was two percent. This was also the highest in five years. Age and growth analysis from bass scales showed that growth for fish over 15 inches was faster than in 2017. This is exactly what anglers want, more big fish to catch.



Once zebra mussels develop high density, they will encrust every hard surface. They can grow five layers deep and suffocate native mussels. When an angler's lure or bait comes into contact with a zebra mussel, the sharp edge cuts the line. Anglers are going to have to switch to expensive Spiderwire type fishing line to prevent line cuts. Anglers won't

be able to wade barefoot anymore, and hunting dogs will have to wear shoes over their paws.

One thing is for sure, zebra mussels will not improve the sportfish population at Lyon State Fishing Lake. If they do crash the sportfish population, I could drain the lake in winter and pump the remaining three acres of water out through the bottom drain. This would eradicate the zebra mussels as long as all the water froze and there are no springs or rainfall before freezup. I could also rotenone the remaining water below the bottom drain. It took three years for the lake to refill after renovation in 1999. It took many more years for the sportfish populations to grow and recover large size fish. Fishing at Lyon SFL is the best it's ever been right now.



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### Youth Mentoring Ponds

Fall River State Park has a “kids” pond that excluded anglers 16 years old and older from fishing. I conducted a creel census that counted the anglers at the pond for the past two years. I doesn't seem fair to have a big brother, sister, parent, or grandparent take a little kid fishing and just sit there and watch. Admittedly,



when I took my two boys fishing, it seemed like all my time was spent helping them cast, untangle, straighten out line, and unhook fish instead of fishing myself. Thinking back now that my boys are grown, I wish I would have spent more time fishing with them when they were little; even if it ment spending more time working with them than fishing myself. My joy was spending time with them.

It also doesn't seem fair to have the only pond within walking distance of a kid open to adult fishing. Adults get all the good fishing spots, take all the easy to catch fish, and spend a lot of time fishing, thereby educating the fish and making them harder for kids to catch. The best fishing ponds are the ones where the fish are seldom fished and niave.



*Kids fishing clinic at Emporia Camp Alexander*

In an effort to improve fishing on some urban ponds, I recommend that we restrict fishing to “Youth Mentoring”. We did this for Fall River State Park Kid’s Pond this year and it has worked well. It benefited the fishery by allowing adults to fish with their kids which encourages fishing. However, it does not allow adults to overfish a pond that kids may only have access to because they can’t drive to lakes. It’s a compromise between kids only fishing ponds and letting everyone fish a pond.

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