

GLEN ELDER DISTRICT FISHERIES NEWSLETTER

Volume 12, Issue 2

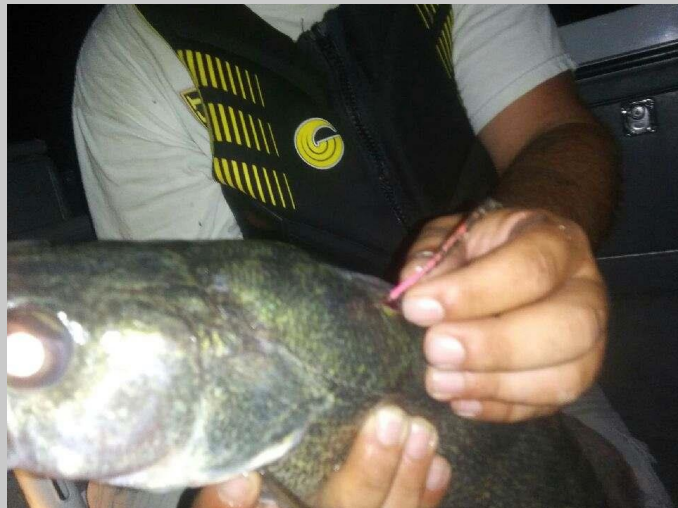
Kansas Department of Wildlife & Parks

Winter 2021

Walleye Telemetry Study Concludes

A 3-year study was initiated in November 2018 to assess fishing and natural mortality rates for walleye at Glen Elder Reservoir. Reliable estimates of mortality rates are critical data to have when making management decisions on any species. When biologists set length and creel limits, they first need to understand current size and age structure, growth rates, harvest rates, and mortality. This telemetry approach allowed us to determine the mortality portion of the equation.

A total of 93 adult walleye were implanted with ultrasonic transmitters over the 3-year study period. Nine of these fish either suffered surgery-related mortality or disappeared soon after tagging and were excluded from the analysis. The remaining 84 fish were tracked from one month to three years. Several fish were only located once or twice before being harvested or disappearing while three actually survived the entire study and were located over 20 times.



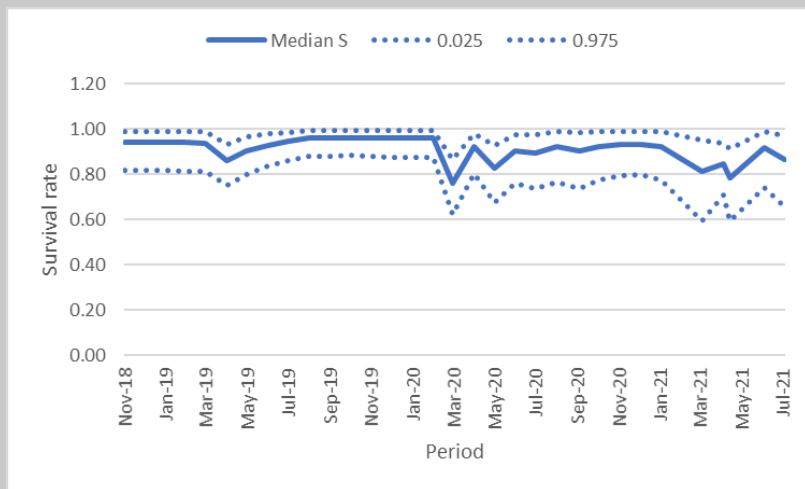
Thirty-seven of the 84 fish were reported harvested by anglers and their transmitters were returned. Four fish suffered in-lake natural mortality soon after the annual spawn in April and twelve fish were still alive and well at the study's end in September 2021. The remaining 31 fish were either unreported harvest mortality, flushed from the reservoir during high releases, or suffered battery failure in the transmitter.

Mortality varied by year with 2019 less than 2020 due to the flooding and high water which re-

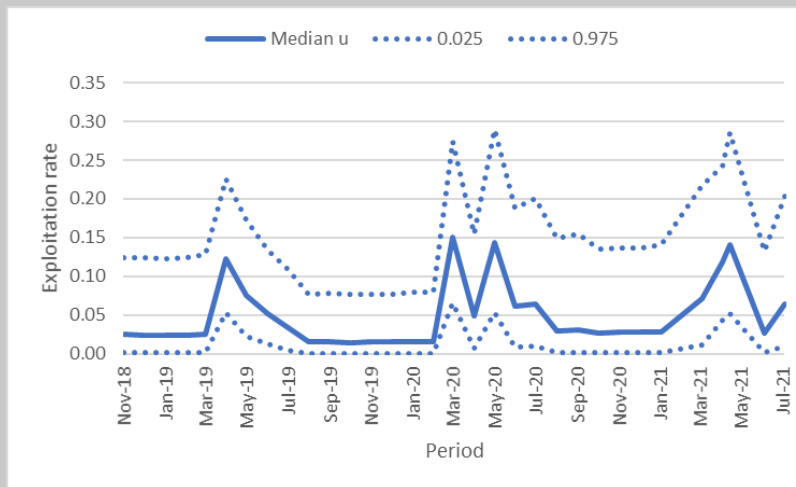
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duced fishing pressure and made walleye more difficult to find. Covid-19 arrived in 2020 and resulted in a spike in fishing license sales and fishing pressure which increased angling morality.

Survival rate was graphed monthly to examine the trends in harvest. Survival rate close to 1.00 means minimal mortality with decreasing survival rate equating to higher mortality. The graph shows variability in survival rates throughout the study.



The figure below illustrates the seasonal patterns in fishing mortality or exploitation rate. The spikes coincide with the April, May, and June peak walleye fishing season, as expected.



Minimal harvest occurred outside of this 3-month period with only three of the 37 reported fish harvested off the dam during the annual walleye spawn. Five fish were reported between July and September and no fish were reported between October and February.

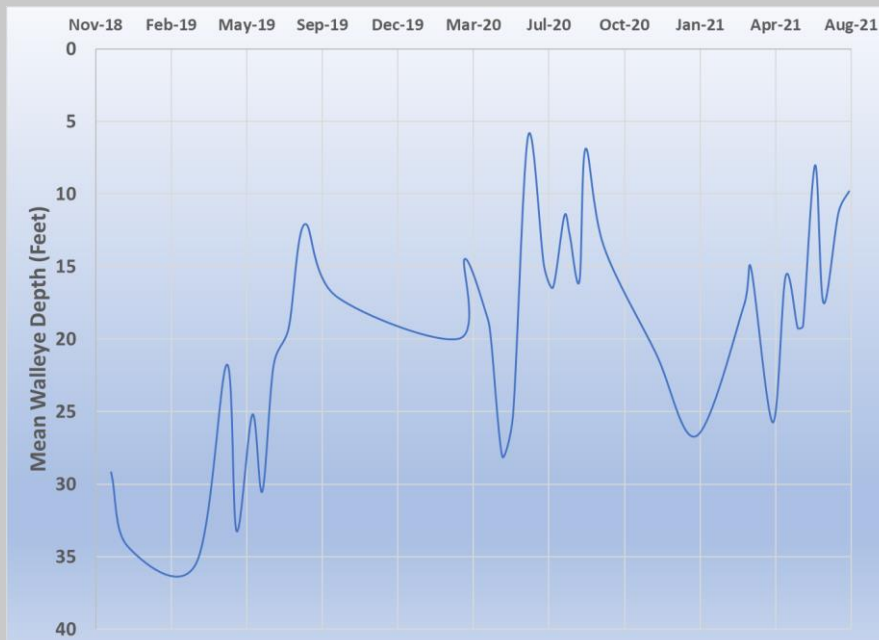
Survival of walleye at Glen Elder was estimated to be 29% annually which equates to a

71% mortality rate for the legal (>18 inch walleye) annually. Survival was higher in 2019 at 43%

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but declined to 25% in 2020 as mentioned above. The annual fishing mortality rate was 45% with natural mortality rate at 26%.

A better way to examine this mortality rate is to start with 100 adult walleye in 2022. Forty-five of these fish will be harvested in 2022 while 26 will succumb to natural mortality. This leaves 29 fish to start the 2023 fishing season. The number will continually decline with only 8 fish carrying over into 2024 and just 2 fish making it to 2025. This coincides very nicely with the age and growth work I have completed at Glen Elder which shows a young population with few fish older than 5 or 6 years. In addition to annual recruitment, angler harvest definitely controls the walleye numbers at Glen Elder with natural mortality and entrainment also important inputs when examining walleye mortality. Lowering the 18-inch minimum length limit to 15 inches, for example, would greatly exacerbate this mortality rate and immediately lead to fewer, smaller fish if mortality rates remained constant.



Valuable information on walleye movement patterns and seasonal habitat selection were also collected and will be examined in detail once the first portion of the study is complete. In general, walleye were deeper in the winter and immediately following the spawn and moved to shallow water between May and August.

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Trout stocked in the Glen Elder Outlet this Winter

Rainbow trout are annually stocked in the Glen Elder park pond to provide a wintertime opportunity for local anglers. This winter the opportunity to stock some of these fish in the outlet below the dam has allowed KDWP to provide two trout locations near the reservoir.

The outlet area was stocked several years ago and gained popularity from many anglers due to the higher trout densities, ease of access along the walk-way, and stream-like environment which adds to the fishing opportunity.



The first stocking this winter occurred just before the November 1st opener and consisted of approximately 1,300 trout averaging ½ pound apiece. Many of the stocked fish were 14 to 15 inches and anglers have been thrilled with the size. Another stocking of the same quantity occurred on November 30th bringing the total to 2,600 fish this winter.

Success rates have been much higher in the outlet than the park pond with anglers routinely catching limits and reporting catch rates up to 30 fish in a couple of hours fishing. Additionally, fly fishing has become very popular and actually often produces more fish than bait or lures.

The next batch of trout will be stocked in either the park pond or the outlet with more stockings planned next February and March. Additional fish are available this winter thus total trout stockings will consist of 4,225 pounds or approximately 8,500 fish this winter. This is an excellent opportunity to get out this winter and catch some fish. Be sure to study the fishing regulations before heading out and



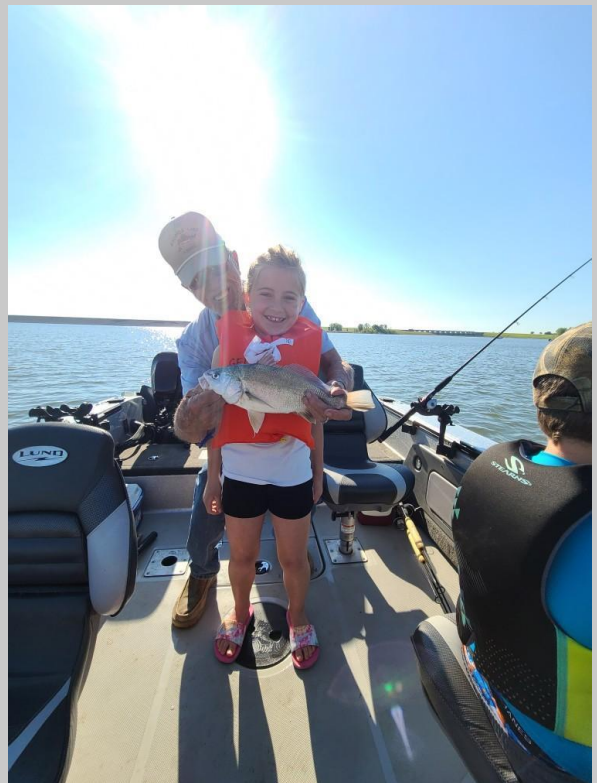
remember **ALL anglers are required to purchase a trout permit before fishing the Glen Elder outlet between November 1st and April 15th.**

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2021 Glen Elder Youth Fishing Tournament Pictures



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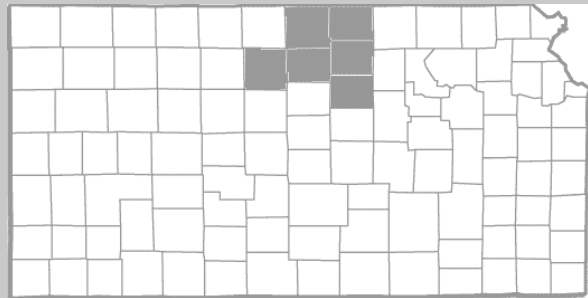
Farewell

I wanted to let all of the newsletter subscribers know that this will be my final edition of the Glen Elder district newsletter. I have accepted the Region 1 Fisheries Supervisor position and will assume that new role soon. One of my first and most important duties will be hiring my replacement to take over my position early next year and continue this biannual newsletter.

I started as the district fisheries biologist at Glen Elder in April 2004 following in the footsteps of Kyle Austin who held the position for 17 years. This was a dream job of mine and I have thoroughly enjoyed my nearly 18 years on the job. It has provided me with many challenges and opportunities that have furthered me as a fisheries professional and also made memories that will last a lifetime.

The coworkers, anglers and other outdoorsmen and outdoorswomen I have met over the years, shared a drink with, learned from, debated with, and even fished with have been the best part of the job and I plan to carry these relationships into my new position.

Thanks for all the memories and good times!!!



I hope you enjoyed the latest edition of the Glen Elder district newsletter. The next biologist will continue to provide information for Glen Elder and Lovewell Reservoirs, Jewell State Fishing Lake, Ottawa State Fishing Lake, Rocky Pond in Belleville, and Jewell City Lake.

Don't forget to check out the many WIFA properties in the area as well. They can offer some great fishing.

If you know someone who would like to subscribe to the newsletter, they can do so [HERE](#). If you would like to unsubscribe, please send your info to [Contact Us](#) with "unsubscribe to Glen Elder District Fisheries newsletter" and we'll get you taken off of the list. If you have any questions or comments feel free to send them in.

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