

Glen Elder District Fisheries

Volume 11, Issue 1 Kansas Department of Wildlife, Parks & Tourism Spring 2020

Glen Elder Walleye Telemetry: Year 1

In an effort to learn more about the life history of walleye in Midwestern reservoirs, specifically in Kansas, a three year study was initiated on Glen Elder Reservoir in fall 2018 to examine walleye mortality, movement patterns, habitat selection, and home range size.

Sixty walleye were implanted with ultrasonic transmitters in November 2018 and April 2019 with an equal number of males and females tagged. External tags were also placed on the fish informing anglers of a \$100 reward for the return of the transmitter if the fish was harvested.

To date, 12 of the tagged fish have been harvested by anglers with most of the harvest occurring in May and June 2019. Only one fish was harvested during the spawn in early April and the last reported harvest was in late July. In addition, one tag ceased movement in the reservoir indicating natural mortality occurred, and approximately 12 fish were likely lost due to entrainment through the outlet gates due to the high releases throughout the year.



Tagged walleye exhibited a variety of movement patterns with a small cohort of fish remaining near the dam and state park area throughout the year while many of the fish migrated to the west end and spent much of the summer and fall on the flats south of the Cawker dike and along the river channel west of the causeway. Walnut Creek was a popular area for walleye during the hot summer months with nearly a third of the walleye located in this area in late July and August.

Mean depth of the tagged walleye was deepest immediately after the spawn and slowly increased through the summer. The mean depth was approximately 34 feet in early May after the spawn and decreased to only 12 feet in mid-August. The fish moved deeper throughout the fall and averaged 25 feet in December 2019.

We will continue tracking these walleye for the next two years and plan to implant transmitters into 12 new walleye to help boost the sample size in 2020. Anglers are reminded to always be on the lookout for walleye with a pink tag in the dorsal fin as these offer high dollar rewards!



Glen Elder Reservoir

2020 Fishing Forecast

Scott Waters—District Fisheries Biologist

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General Information: The reservoir is approximately 1 foot low as of February 2020. All boat ramps and facilities will be open and usable again this year.

Reminder: There is a 10 inch minimum length limit on CRAPPIE!!!



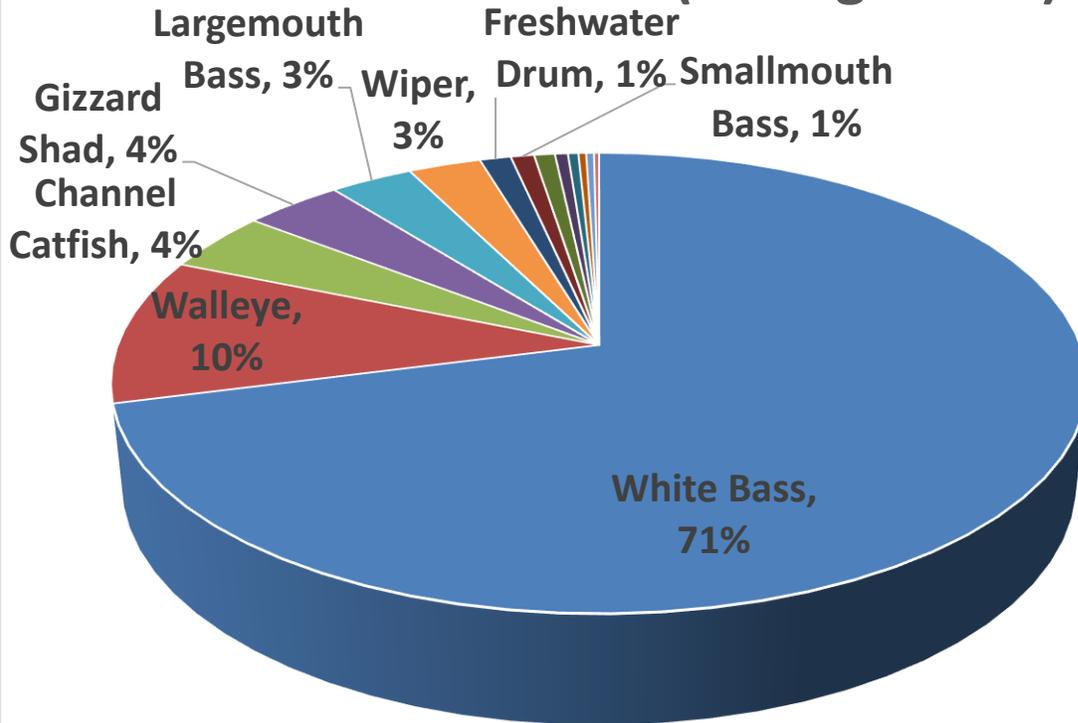
Special Regulations:

- Smallmouth Bass—21 inch minimum length limit
- Crappie—10 inch minimum length limit, daily creel limit of 20 fish
- Walleye—18 inch minimum length limit
- Largemouth Bass—18 inch minimum length limit
- Blue Catfish—35 inch minimum length limit

GLEN ELDER RESERVOIR

FALL SAMPLING GILL NET DATA (2019)

Relative Abundance (2019 gill nets)



	# Caught	Length (in)		Weight (lb)	
		Average	(Range)	Average	(Range)
Blue Catfish	15	30.6	21.6-36.4	14.9	3.7-29.1
Channel Catfish	78	24.1	4.1-34.1	6.1	0.1-16.2
Black Crappie	499	9.1	2.6-12.8	0.5	0.1-1.3
White Crappie	2,576	10.3	3.0-14.4	0.7	0.1-2.0
Gizzard Shad	1,768	N/A	2.2-19.5	N/A	N/A
Largemouth Bass	86	11.1	4.5-18.3	1.0	0.1-4.3
Smallmouth Bass	185	13.4	3.3-18.7	1.4	0.1-3.3
Walleye	103	17.1	8.5-25.0	2.3	0.2-6.6
White Bass	1,351	11.9	3.0-17.5	1.1	0.1-3.1
Wiper	29	22.8	17.5-26.6	6.5	2.4-11.2

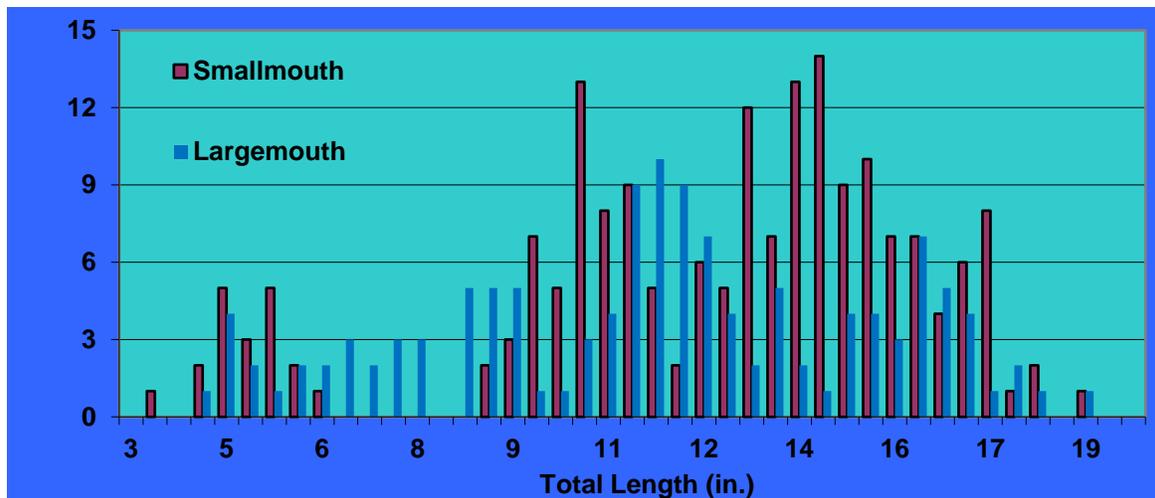
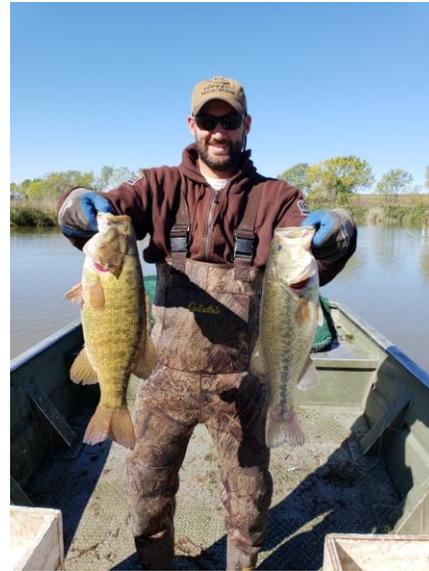
Summary of all fish sampled during spring electrofishing, summer floatline sampling, and standard fall netting using gill nets and trap nets.

GLEN ELDER RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

BLACK BASS--GOOD

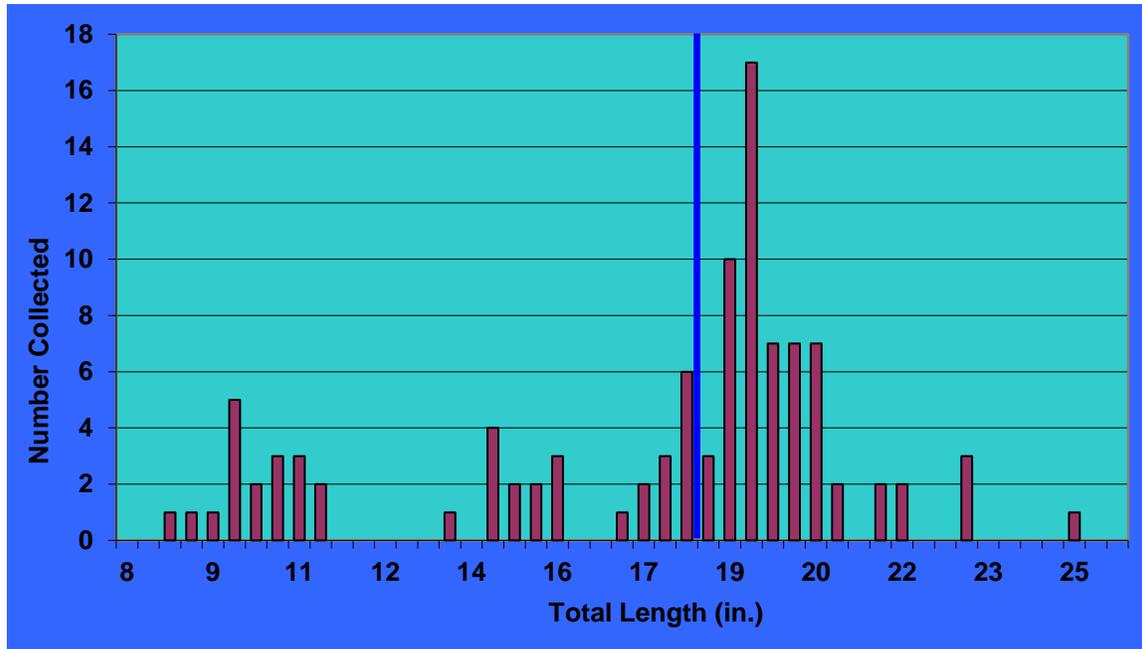
Largemouth bass continue to thrive and their population exhibited more growth in 2019 due to improved recruitment in recent years and excellent growth rates. High water prevented collection of a spring largemouth sample, but angler observation and collections from other methods indicate the numbers continue to grow with very good numbers of young fish entering the population. The 2020 largemouth bass density rating would likely be improved over the 27.1 from 2019. The latest preferred rating improved to 11.6 and is likely similar to that in 2020. Glen Elder is currently among the state's top reservoirs for both largemouth and smallmouth density rankings. The smallmouth bass catch rate exhibited a nice improvement with the density rating climbing from 17.8 to 41.2, the preferred rating from 11.4 to 25.9 and the lunker rating improved from 1.7 to 4.2. Glen Elder ranks first in each of these categories among the state's reservoirs. The biggest fish collected weighed 3.3 pounds and all sizes of fish were in excellent shape. Eleven percent of the fish were between 3 and 6 inches, 36% were 9 to 12 inches, 46% were 13 to 16 inches, and 7% were over 17 inches. Fish recruitment also improved this year as the number of 3 to 6 inch fish rose from only 0.3 per hour to 6.6 per hour. Anglers should continue to notice the improved largemouth numbers to complement the strong smallmouth population at Glen Elder. **NOTE: The smallmouth bass length limit is 21 inches!**



GLEN ELDER RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WALLEYE--GOOD



Another nice sample was collected in 2019 as the walleye population remains one of the best in the state due to consistent recruitment and good growth rates. The density rating (15") improved from 3.1 to 4.3 and is above the 3.6 average from 2013 to 2018. This places Glen Elder second in terms of walleye density among the state's reservoirs. The preferred rating also improved from 0.4 to 0.9 which ranks 3rd in the state. Steady recruitment between 2011 and 2015 maintained a fair population, but an alternate year stocking strategy which began in 2016 has been working well to increase recruitment. No walleye stockings occurred in 2019, however, and a strong year class averaging one age-0 walleye per net was collected. These fish were either naturally produced or migrated from

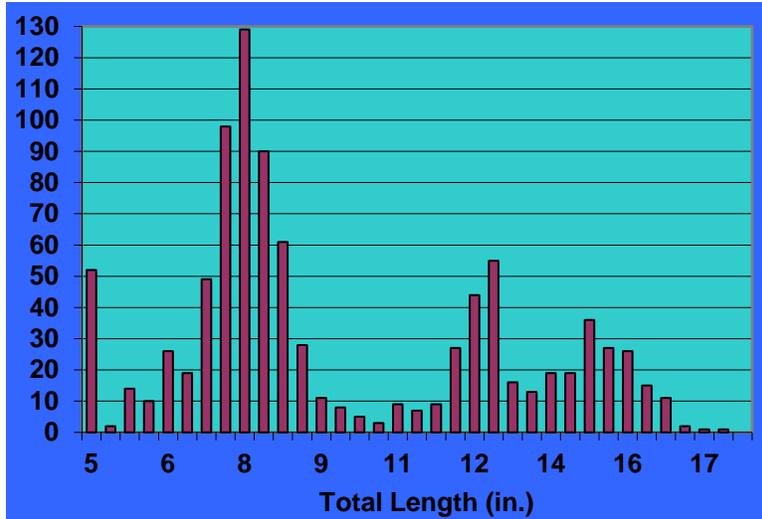


upstream reservoirs. Walleye fry and fingerlings have been requested for 2020 and should help to continue improved numbers of young fish in the population. Fish between 18 and 21 inches made up 56% of the sample with 14 to 17 inch fish comprising 23%, 8 to 11 inch fish accounted for 17%, and fish between 22 and 25 inches accounted for 4% of the fall sample. Anglers can expect an increased amount of catch and release due to the many young fish coming into the population.

GLEN ELDER RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WHITE BASS--EXCELLENT



White bass numbers improved significantly over already high numbers. Multiple years of good recruitment have improved numbers of young white bass that have greatly increased the catch rate since 2014. Following a low density rating of only 3.6 in 2015, the population has rebounded to a current density rating of 18.1 which ranks second in the state. In addition, 3 to 4 year old fish continue to grow and improved the preferred rating to 16.7, also second in the state. The lunker rating also improved from 2.1 to 4.7 which ranks first among the state's reservoirs. A very big year class of white



was produced in 2019 in part due to the high water and these fish will move into the quality size this year which will help improve numbers even more. Fish between 5 and 9 inches accounted for 56% of the catch, fish 13 to 15 inches represented 21%, fish between 10 and 12 inches comprised 19%, and 4% of fish were 16 to 17 inches. Hot summer days will find whites schooling in open water and chasing shad on the surface while night anglers do very well using floating lights. Fall is often a great time to pull out the slabs and fish along rocky points and other inshore areas, while winter ice fishing may be the best time to catch these guys when they stack up along the river channel on the west end.

GLEN ELDER RESERVOIR

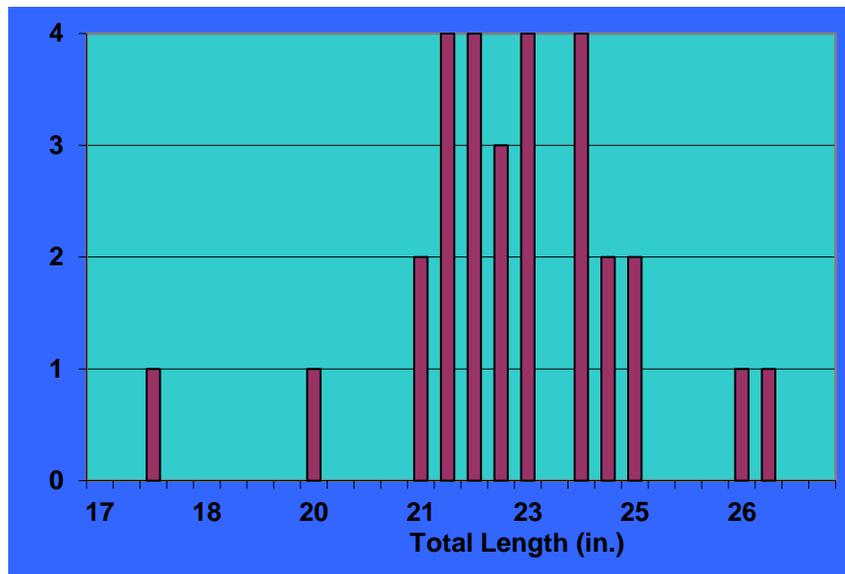
FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WIPER--GOOD



Wipers were last stocked in Glen Elder in 2013 to provide a moderate number of fish as a biological control for gizzard shad as well as an additional sportfish. The smallest fish are 20 inches or 4 pounds with the biggest reaching 27 inches and 11 pounds. The 2019 catch rate declined 28% as these fish continue to slowly disappear from the population. Body condition was excellent for all sizes as these fish are doing an excellent job of feeding on gizzard shad. Glen Elder wipers rank 7th for density (>16"), 2nd for preferred (>20"), and 1st for lunker (>24") among the state's reservoirs. A few large stripers (9-20 pounds) can also be found with ice anglers catching most of them. Stripers were stocked in 2014 with these fish in the 24 to 26 inch range while the 2018 stocked fish are around 15 inches. Anglers can find wipers

mixed in with white bass throughout the year, but wipers tend to occupy the lower end of the reservoir near the dam and hang out in Walnut Creek much of the year. Slabbing over humps, trolling crankbaits, or casting bucktail jigs off windy points are some of the better methods for catching wipers. Wipers have been requested for stocking in 2020 after a 7 year hiatus.



GLEN ELDER RESERVOIR

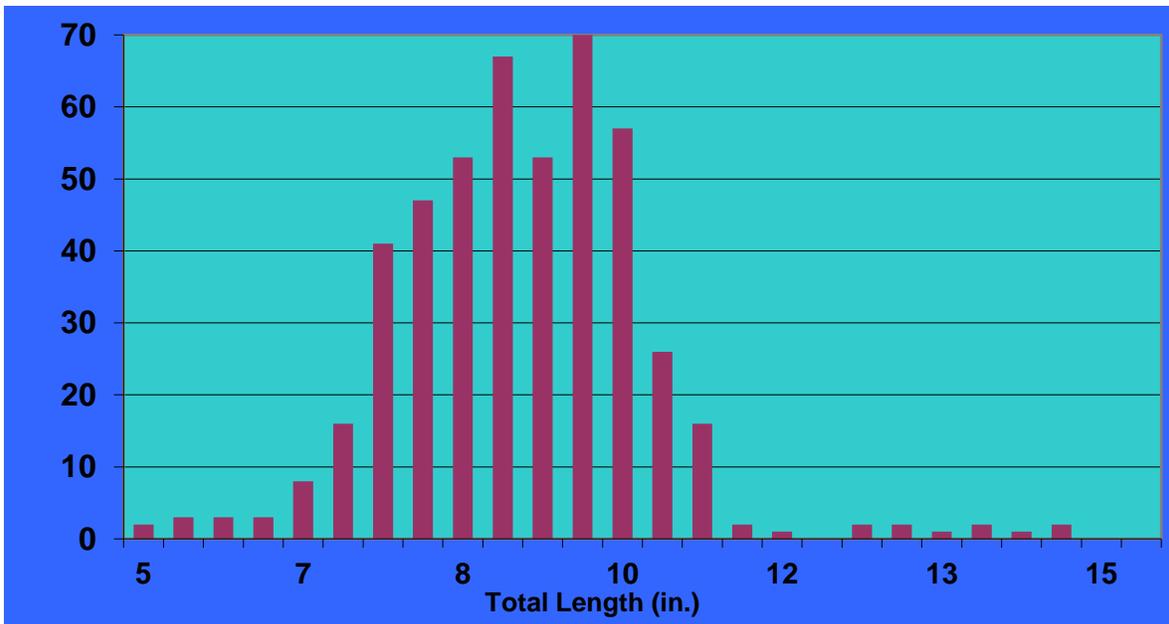
FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

CRAPPIE--GOOD

The crappie population at Glen Elder received a very nice boost in numbers during 2019 with a combination of recruitment and high immigration of adult black crappie from upstream. Black crappie catch rate averages less than one fish per net most years but improved to 20 per net in the fall sample. This moves Glen Elder to 2nd among all reservoirs for density and 3rd for preferred size fish. Adult white crappie numbers improved slightly from a density rating of 2.0 to 3.1. This is the highest density rating since it was 8.9 in 2010. In addition the high water yielded very high reproduction rates with an average of 125 age-0 white crappie per net. This is the second highest catch rate since 2009. The new 10 inch minimum length limit should take pressure off these young fish and allow them to grow more before being harvested.



**Don't forget there is a 10 inch length limit
and 20 per day creel limit at Glen Elder!**



GLEN ELDER RESERVOIR

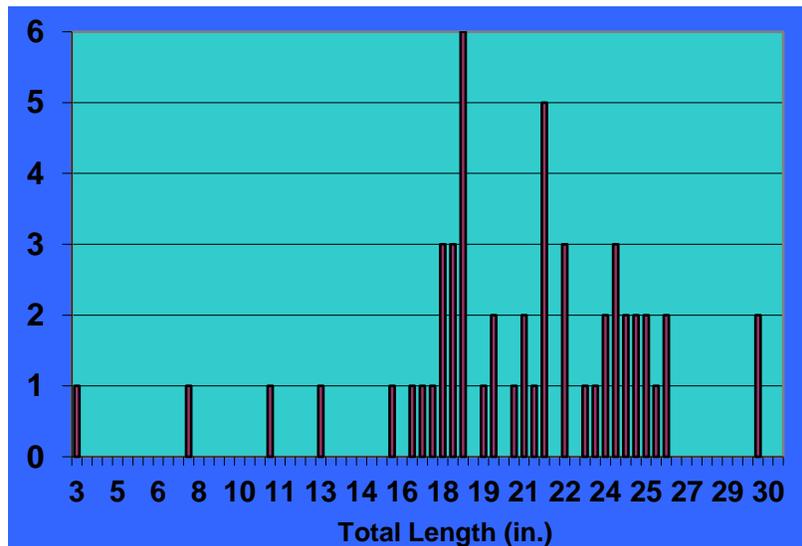
FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

CHANNEL CATFISH—GOOD



Channel catfish catch rate declined in the fall 2019 sample after showing a nice increase last year. The catch rate declined from 3.5 fish per gill net to 2.3, similar to the catch rates observed in recent years. The catch rate of young channel catfish continues to be lower than desired due to poor recruitment with only two fish less than 16 inches collected, but the high water levels through most of 2019 should provide a nice boost to channel catfish reproduction. Angler harvest of channel catfish continues to be highest during the summer months with chumming activity dominating the catch but anglers fishing west of the causeway had good success rates in 2019. Size structure will be improved with the

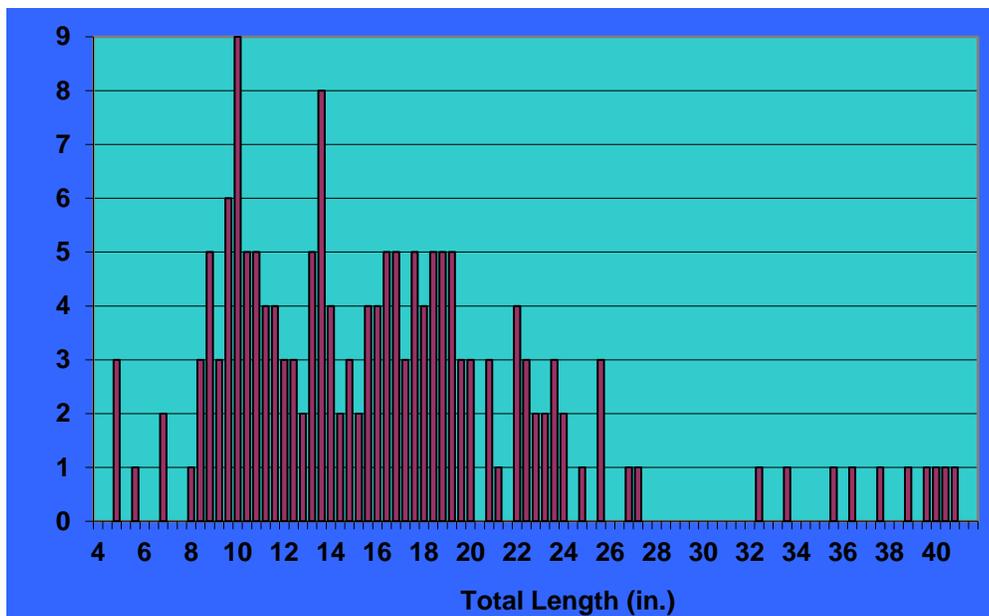
best numbers of fish between 21 and 25 inches as this size group accounted for 45% of the catch. Fish between 16 and 20 inches comprised 40%, fish 26-31 inches were 10%, and fish 11 to 14 inches represented 5%. Biggest fish in the sample weighed 13 pounds. Glen Elder ranks 10th in terms of density, 3rd for preferred, and 8th for lunker size fish.



GLEN ELDER RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

FLATHEAD CATFISH--GOOD



Flathead catfish are sampled each summer using low frequency electrofishing as the best method for sampling all sizes of flatheads. This year's sample collected 169 flathead catfish ranging from 5 to 44 inches with the biggest fish weighing 39 pounds. Only 6 percent of the fish were over 10 pounds while most of the catch was much smaller with fish between 10 and 25 inches accounting for 79% of the catch. Flatheads can be caught along the rocky banks during the spawn in June and July and are often found in the brush piles throughout the year. Set line anglers annually have success for both channel catfish and flatheads fishing up west, around Mill Creek, and Walnut Creek.

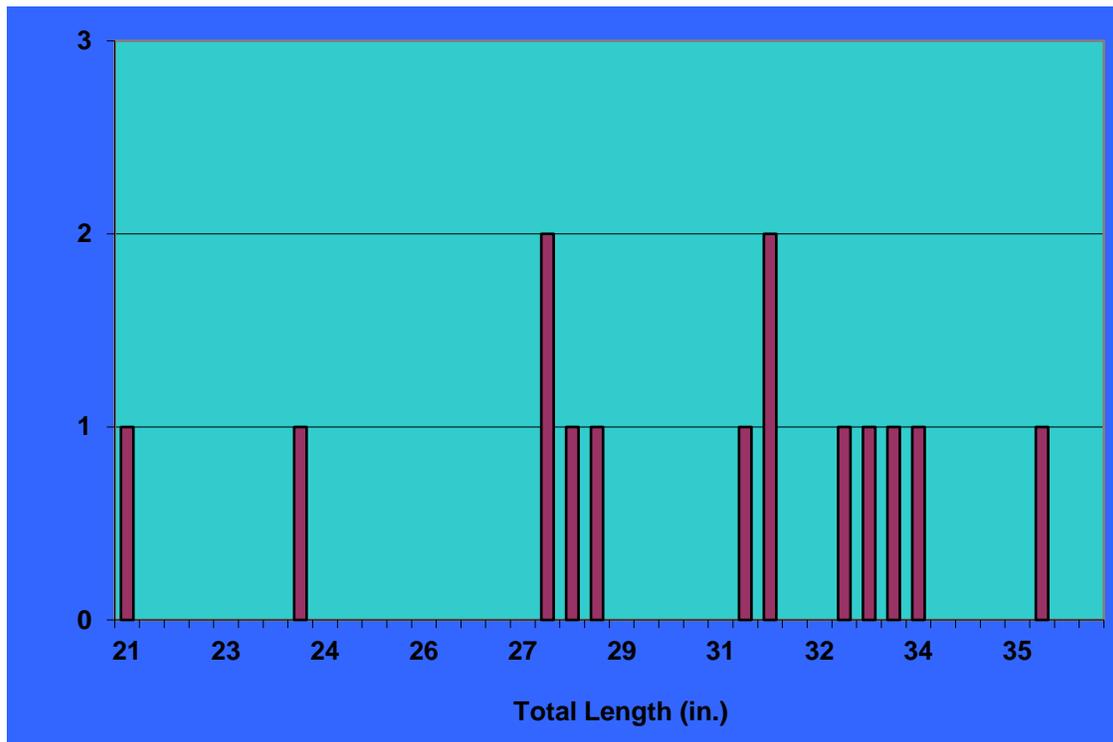


GLEN ELDER RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

BLUE CATFISH--FAIR

Blue catfish were not sampled with summer low frequency electro-fishing due to the high water. However, blue catfish were collected using float lines in July with fish between 21 and 36 inches in the sample. The biggest fish weighed 29 pounds. Excellent growth rates should yield many fish approaching the 20 pound range in the next couple of years and natural recruitment is imminent. **Reminder, anglers are required to release all blue catfish less than 35 inches!**





Lovewell Reservoir

2020 Fishing Forecast

Scott Waters—District Fisheries Biologist

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General Information: The reservoir is near conservation as of February 2020.

Anglers need to be aware of the new crappie regulations

Crappie length limit is 10 inches and creel limit is 20 per day!!!

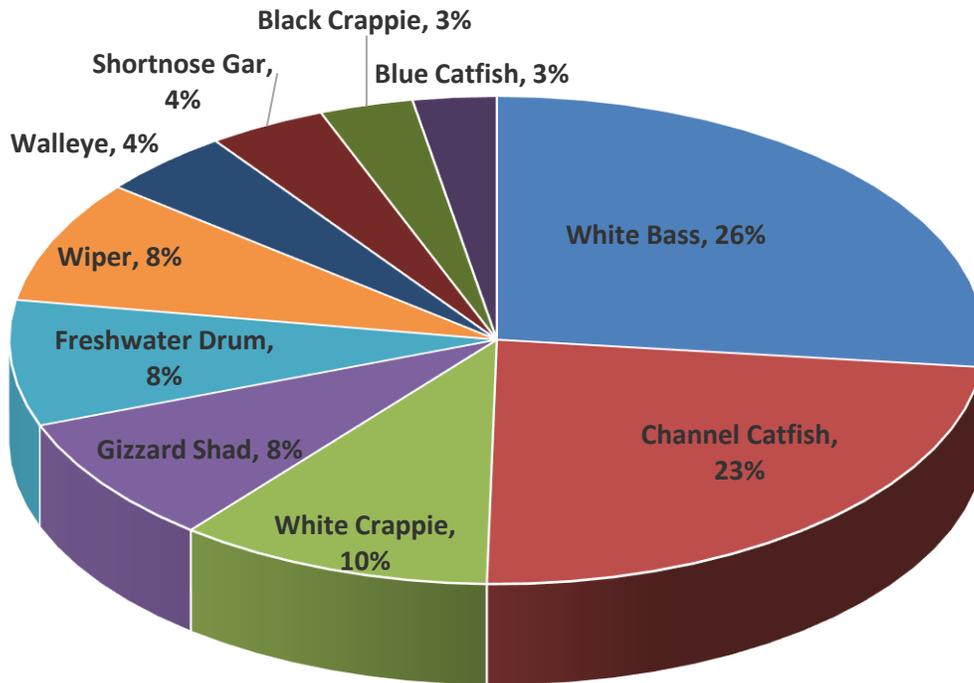


Special Regulations:

- Crappie—10 inch minimum length limit, 20 per day creel limit
- Walleye—18 inch minimum length limit
- Blue Catfish—35 inch minimum length limit

LOVEWELL RESERVOIR

FALL SAMPLING GILL NET DATA (2019)



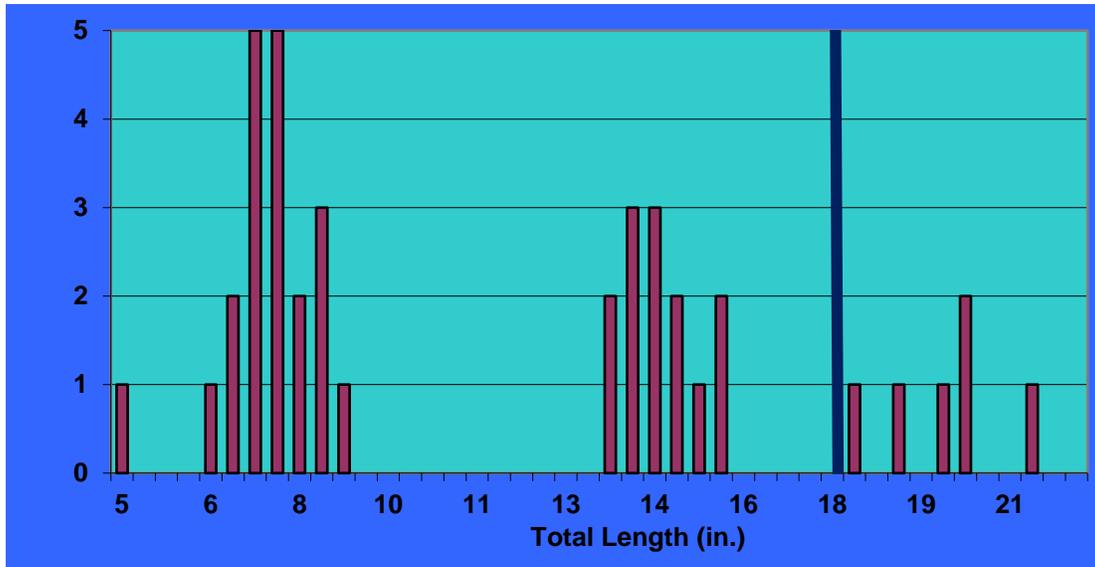
	# Caught	Length (in)		Weight (lb)	
		Average	(Range)	Average	(Range)
Blue Catfish*	200	28.3	18.7-36.0	10.9	2.6-22.4
Black Crappie	238	9.6	3.0-12.4	0.6	0.1-1.2
Channel Catfish	180	19.7	5.7-32.5	2.9	0.1-15.4
Flathead Catfish	31	24.0	8.9-41.5	11.4	8.9-38.9
Gizzard Shad	129	N/A	3.0-16.7	N/A	N/A
Walleye	39	13.9	5.7-21.9	1.4	0.1-4.4
White Bass	805	10.4	3.7-15.2	0.7	0.1-1.7
White Crappie	2,404	10.0	3.3-14.0	0.6	0.1-1.7
Wiper	67	13.7	4.9-19.5	1.9	0.1-3.7

Summary of all fish sampled during spring electrofishing, summer floatline sampling, and standard fall netting using gill nets and trap nets.

LOVEWELL RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WALLEYE--FAIR



Lovewell Reservoir continues to support a low density walleye population but provides quality size fish that anglers can catch throughout the year. Poor recruitment from 2013 to 2018 combined with a summer fish kill in 2018 that resulted in extensive walleye mortality has continued to keep total numbers lower than desired. The density rating improved slightly from 0.5 to 0.8 while the preferred rating also rose from 0.2 to 0.3, but the lunker rating remained at 0 for the second consecutive year. The walleye density ranks 9th among the state's reservoirs while the preferred rating will rank 8th.

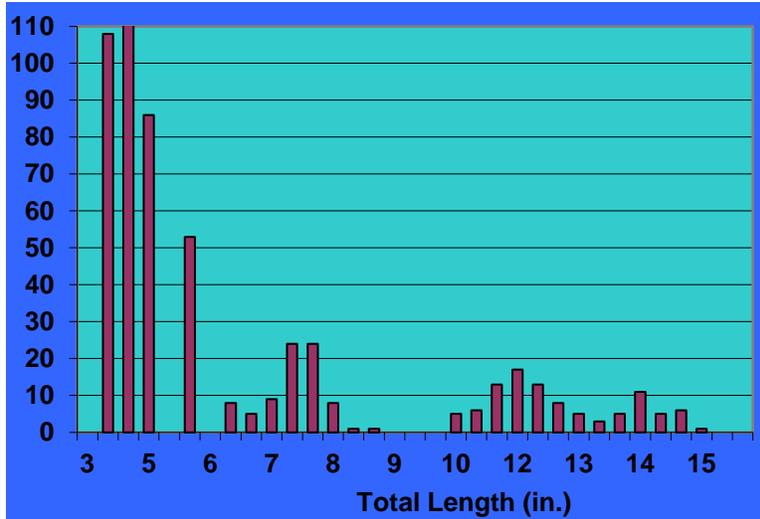


This continues a trend of lower catch rates since the 2012 sample, but good size is available. A very nice year class of 2019 walleye was collected in the gill nets with an average of one fish per net. This is the strongest walleye year class produced in the past 12 years. In addition to the first stocking of 6,000 walleye in early October, 3,000 intermediate (8-9 inch) walleye were stocked in late October after sampling and will further boost the 2019 year class. Only 15% of the fish in the sample were greater than 18 inches. Overall, 48% were 7 to 10 inches, 37% were 14 and 17 inches, and 15% were 19 to 22 inches. Fish condition was excellent again this year. Fry and fingerling stockings were conducted each of the past three years and young fish were produced, but the numbers were well below the management objective. A combination of fry, fingerlings, and intermediates (8 inch fish) stocked in 2019 appear to have led to increased recruitment.

LOVEWELL RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WHITE BASS--GOOD



White bass catch rate and density rating improved significantly with the best catch rate observed at Lovewell since 2011. The white bass population is in good shape and anglers should realize a successful year of white bass angling in 2020. The density rating (9") reached a low of 2.1 in 2014 and gradually improved to 4.9 in 2018 with the latest sample reaching 7.6 this year which ranks 8th in this year's Fishing Forecast. The preferred rating (12") improved for the fourth consecutive year from 2.2 to 4.6 and ranks 7th among the state's reservoirs. Fish over 14 inches were collected for the first time since 2014 as well with the biggest fish measuring 15 inches and weighing 1.7 pounds. Overall, 44% of the sample was between 5 and 9 inches, 38% were 10-12 inches, and 18% were 13 to 15 inches. As in the past, the best time to fish for Lovewell whites will be in the summer, during peak irrigation releases. The inlet and outlet areas historically produce the vast majority of whites harvested while



summer topwater activity can also be productive. Night fishing using floating lights can be fair to good and drifting or slabbing over submerged roadbeds and humps throughout the year is also an effective method for hooking into a nice stringer of whites.

LOVEWELL RESERVOIR

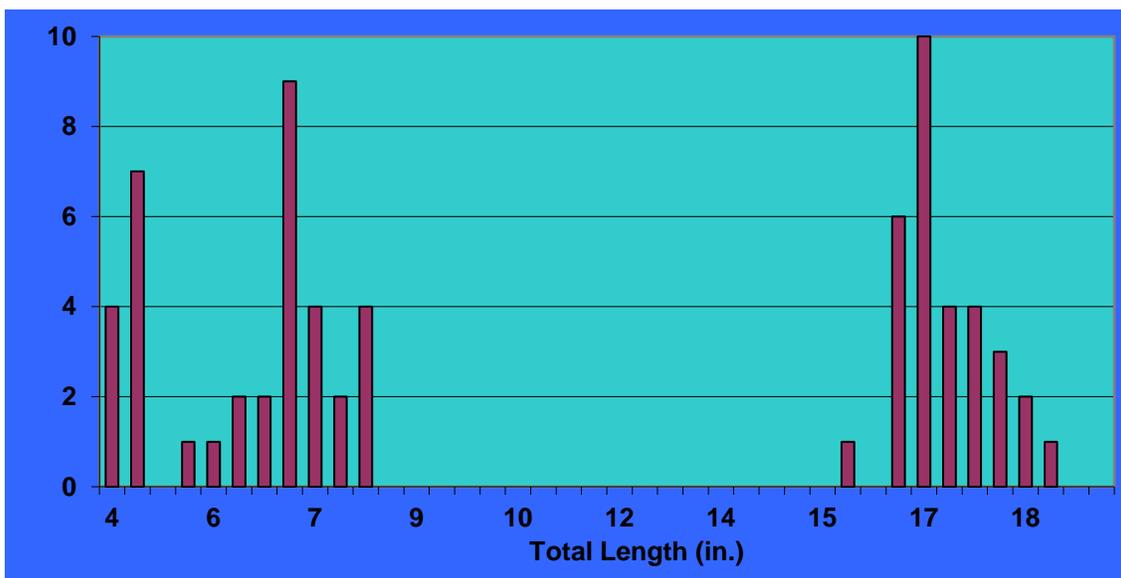
FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

WIPER--FAIR



The catch rate of wipers rebounded in 2018 from the lowest recorded at Lovewell as it improved from 0.6 to 3.2 fish per net while the density rating only improved slightly from 0.05 to 0.4. This is still the second lowest density rating recorded at Lovewell for wipers, but strong year classes from 2016 and 2017 stockings have laid the foundation for a rebounding wiper population. The 2016 fish range from 15 to 17 inches and account for 28% of the sample. The 2017 fish vary from 12 to 14 inches and represent 66% of the sample. Older fish between 19 and 22 inches only comprised 5% of the catch. Bigger fish were collected in the trap nets with fish ranging from 23 to 25 inches and up to 7 pounds collected. Wiper fry and fingerlings were stocked in 2017 and produced a nice year class. This combination will be stocked again in 2019 to help maintain

improved recruitment. Similar to white bass, decent numbers of wipers can be caught during the irrigation season as the fish migrate to the inlet and outlet areas. Other anglers report good success for bigger wipers trolling crankbaits and deep-diving rapalas along the north shore and the dam. **Be sure to identify your catch carefully as those young wipers look very similar to white bass. The daily creel limit on wipers is 2 fish!**



LOVEWELL RESERVOIR

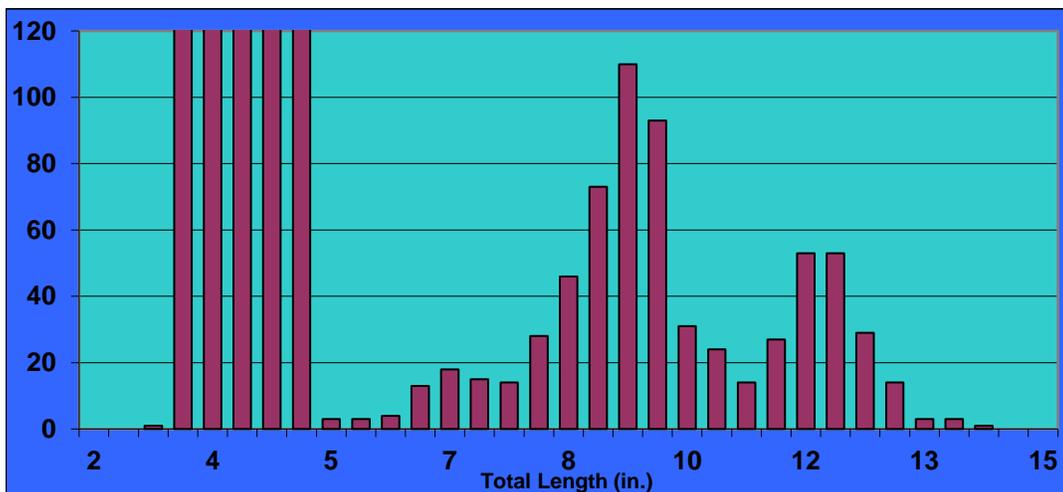
FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

CRAPPIE--GOOD

The crappie population remains strong in Lovewell and catch rates reached near all-time highs in 2019. This is partly due to the lower water level during sampling, but primarily due to the strong recruitment in recent years. Lovewell ranks first among the state's reservoirs in terms of crappie density (8"), preferred size fish (10"), and lunker rating (12"). Density rating was only 2.7 in 2014 but climbed to 19.9 in 2017 and reached 64.5 this past fall. Sixty percent of adult crappie were between 6 and 9 inches, 39% were 10 to 12 inches and 1% were 13 to 14 inches. Higher water levels in recent years allowed for excellent crappie production with the 2015 to 2017 year classes dominating the population as age-2 to age-4 fish, and these three year classes should produce good fishing in the next few years. Approximately 15% of the adult crappie consisted of black crappie with fish between 3 and 12 inches collected. Biggest white crappie weighed 1.6 pounds and biggest black crappie weighed 1.2 pounds. These fish all appear to be very healthy with excellent body condition measured. Several brush piles are maintained to help concentrate fish for anglers, and decent success can be found fishing around the flooded vegetation in Montana Creek and other coves during late April and May when the fish are spawning. We will add several hundred trees to the existing brush piles this year as well as additional Georgia Cubes.



One of several black-nose crappie collected at Lovewell Reservoir in October 2019.

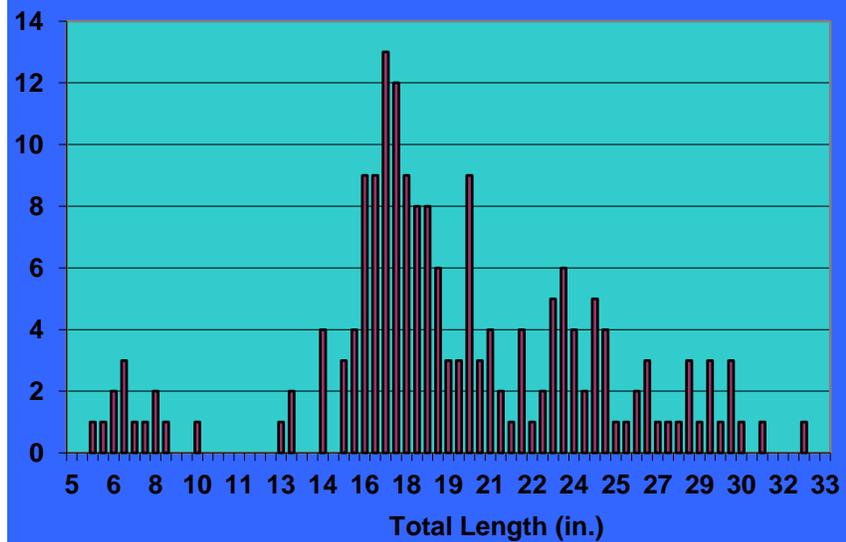


LOVEWELL RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

CHANNEL CATFISH--GOOD

The catfish population will be excellent in 2020 with all sizes of channel cats and flatheads available to anglers. Lovewell ranks first in terms of channel catfish density (16"), second for preferred size fish (24"), and third for lunkers (28"). The fall 2019 channel catfish catch rate was much improved for all sizes compared with the 2018 sample with the biggest numbers of fish in the 16 to 20 inch range. The biggest fish weighed 10 pounds with good numbers of fish greater than 5 pounds collected. Sixty-three percent of the fish were between 16 and 20 inches, 19% were 21-25 inches, 10% were between 13 and 15 inches, 5% were 26 to 30 inches, and 3% were 6-7 inches. Channels and flatheads will be vulnerable in all arms of the reservoir, including Montana, Windmill, and Prairie Dog Creek, as well as up White Rock Creek near the Highway 14 bridge. During peak irrigation releases, catfish can be readily caught close to the inlet and outlet structures and are susceptible along the dam and other rocky areas during the spawn.

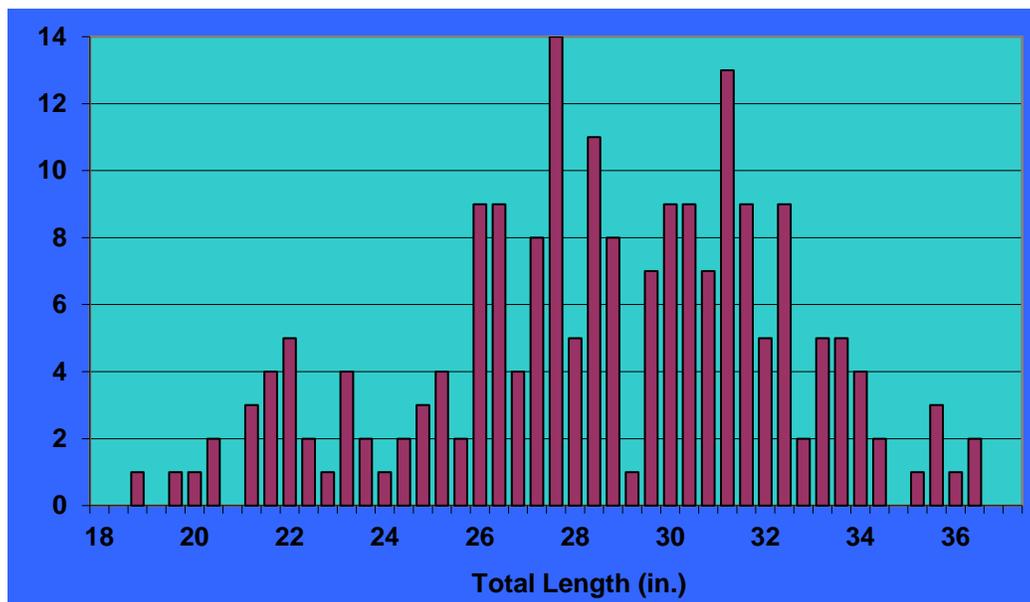


LOVEWELL RESERVOIR

FALL SAMPLING DATA (2019) AND 2020 FISHING FORECAST

BLUE CATFISH--FAIR

We collected over 200 blue catfish in 2019 using electrofishing, float lines, and fall gill nets. There are now nearly 700 tagged blue cats in the reservoir as we continue to study their movements and growth rates. Fish collected this year ranged from 19-36 inches and weighed up to 22 pounds. Natural reproduction of blue catfish has not been documented recently and will be needed to sustain this population without stocking. For that reason, there is still a 35 inch minimum length limit on blue catfish at Lovewell. **All blue catfish less than 35 inches must be released!**



Fishing Sampling Pics—2019



Local Events in 2020

Glen Elder

TBD	WLA Multi-Species Tournament
June 6	16 th Annual Youth Fishing Tour.
June 27-28	KWA Governor's Cup Walleye
TBD	WLA Catfish Tournament

Lovewell

June 14	Kids Fishing Clinic
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Emerson Lake—Jewell

May 30	Kid's Fishing Derby
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**Free Fishing Weekend
is June 6th and 7th
statewide!**

This is the latest edition of the Glen Elder district newsletter. I 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 FISH properties in the area as well. They can offer some great fishing for those without a boat.

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