



Arkabutla Reservoir 2024

REEL FACTS

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General Information: Arkabutla Reservoir is one of four flood control reservoirs (FCRs) in north Mississippi. Built by the US Army Corps of Engineers (COE) in 1943 on the Coldwater River, it is the smallest FCR with a summer pool of 11,870 ac. Water level follows an annual rule curve but deviates from it due to local precipitation and COE spillway gate operations. The reservoir is lowered in fall to winter pool (4,640 ac); flood pool is 33,400 ac. Arkabutla is a popular destination for crappie and catfish anglers.

Location/Contact: 8 miles northwest of Coldwater, MS. COE office (662)-562-6261.

Fishery Management: Crappie, catfish, Largemouth Bass, and White Bass.

Purchase a Fishing License: https://www.ms.gov/mdwfp/hunting_fishing/

Amenities

- 7 concrete fee ramps.
- Bait shop in Hernando.

Creel and Size Limits

The following apply to the reservoir, not the spillway.

- Crappie: Must be over 12 inches. 15 crappie per day per angler; no more than 40 crappie per boat (3 or more anglers).
- Largemouth Bass: No length limit and 10 bass per day per angler.
- White and Yellow Bass: No limits.
- Bream: No length limit and 100 per day per angler.
- Catfish: No limits.

Regulations

- No more than 25 jugs and no more than 25 yo-yos may be fished per person with no more than 2 hooks per device. Jugs and yo-yos must be tagged with name and address and must be attended (in sight) during daylight hours.
- Grabbling season May 1 – July 15; only wooden structures allowed.
- No more than 4 poles may be fished per person; no more than 2 hooks or lures per pole.
- Spillway: Consult Outdoor Digest

Fishing Tips

General

- Best fishing is usually in the spring and fall.
- Fish near deeper water if the water is falling; fish shallower if it is rising.

Crappie

- Target shoreline cover in spring in creek arms and coves. In summer and fall, troll for suspended fish in creek mouths and the main reservoir.

Largemouth Bass

- Target cover in coves in spring, points in summer, and tributaries in fall.

Bream

- Fish crickets or redworms near cover.

Catfish

- Fish worms or cut bait in tributaries during runoff or over mudflats if no runoff.

Emergency Drawdown: On May 9, 2023, a flash flood watch was issued for...“the potential failure of Arkabutla dam”... A sinkhole had developed at the base of the 80-year old dam (right, COE photo). At that time, the lake was about 14 ft over the COE rule curve due to heavy rains. The COE lowered the water level over 30 ft in about seven weeks. No dam failure occurred, but there were fish kills in and below the lake during the late stages of the drawdown.

Since then, the COE has maintained the water level at about 205 ft (5 ft below winter pool). All boat ramps are inaccessible at this level (below, left). However, a gravel ramp (below right) was constructed to enable launching directly into the channel of the northern fork of the Coldwater River beside the Hwy 51 ramp parking lot.



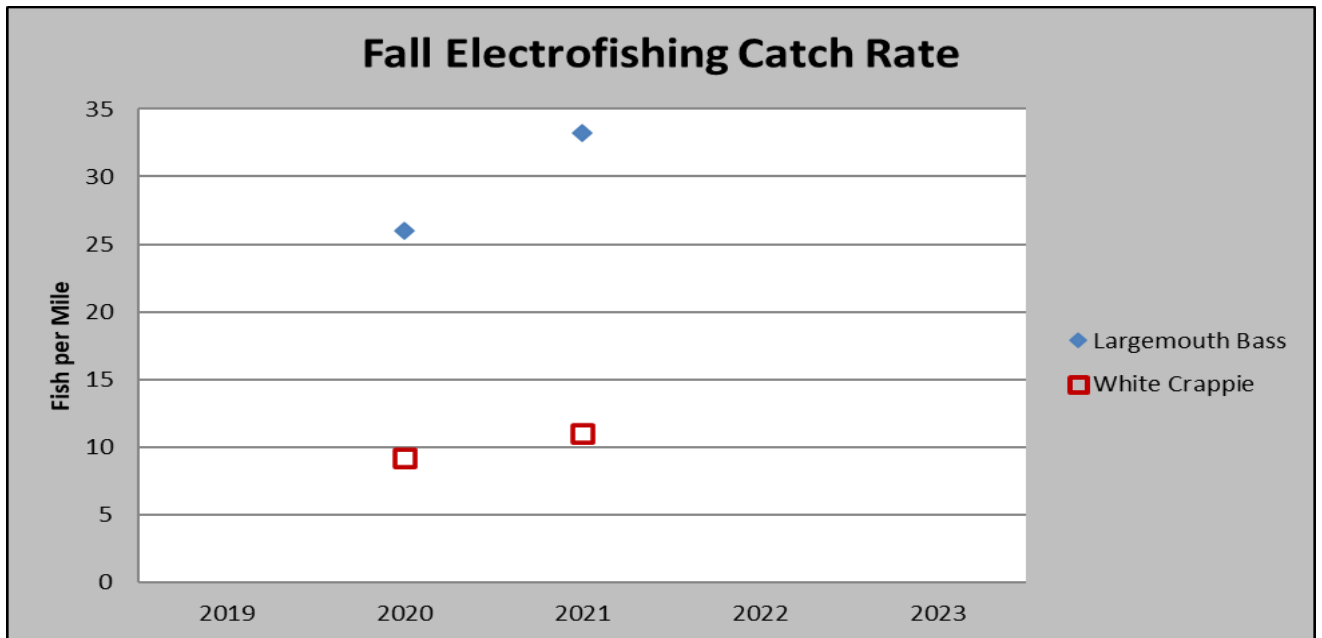
Now what?: COE estimates for repairing the dam have been from 3 to 7 years, including diagnosing the problem, engineering repair options, finding funding, and bidding and construction.

Vegetation rapidly colonized and grew in the lake bottom after the drawdown (below – Hernando Point – June, left; September, right) to provide fish and wildlife habitat until re-flooding. The time until repairs are completed will determine whether that vegetation will be brush or grown trees. Like the original lake, fish in the river and sloughs will reproduce heavily and create a “new lake” effect with rapid growth and abundance. Anglers can expect catchable-sized fish, especially largemouth and white bass, by fall after the first spring spawn. Bream, crappie, and catfish will take another year or two.



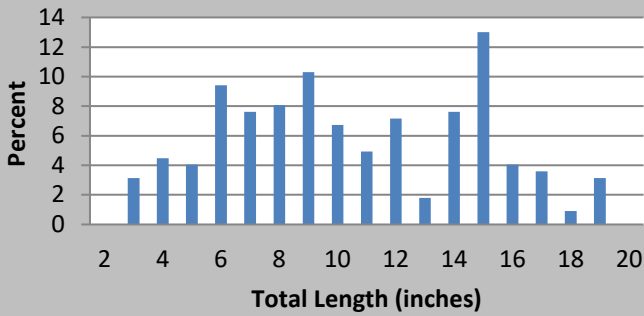
Species	# of fish collected	% of sample	Average Length (inches)	Maximum Length (inches)	Average Weight (pounds)	Catch Rate – Adult fish (fish/mile)
Gizzard Shad	455	33	5.5	11.4	0.1	23
Bluegill	393	28	4.5	8.1	0.1	48
Largemouth Bass	223	16	11.0	19.9	1.1	33
White Crappie	101	7	8.3	14.4	0.5	11
Black Crappie	75	5	6.5	13.4	0.2	8
Blue Catfish	52	4	23.4	36.4	5.7	6
Channel Catfish	32	2	15.6	24.3	1.4	6
White Bass	26	2	10.2	16.8	0.7	5
Flathead Catfish	11	1	9.3	14.1	0.4	<1
Redear Sunfish	7	1	5.5	8.0	0.1	1
Threadfin Shad	4	0	3.4	4.3	0.0	1 (all)
Yellow Bass	2	0	4.3	4.7	0.0	<1

Above: No sampling was performed in 2022 or 2023. Fall 2021 electrofishing results. Although abundant since first seen in 2017, Threadfin Shad had a big die-off during the February 2021 cold snap. High water since 2018 has resulted in higher numbers of bluegill and bass as they benefitted most from flooded vegetation. Small Gizzard Shad and Bluegill provided abundant forage for predators like bass and crappie.

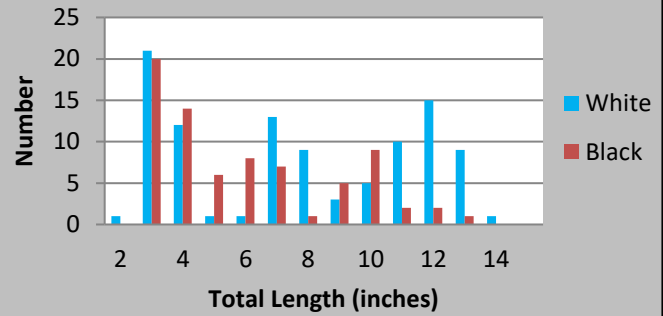


Above: No sampling was performed in 2022 or 2023. Trends in fall electrofishing catch rates for adult fish. Largemouth Bass numbers have increased with spring flooding since 2018 and minimal angler harvest. Numbers of adult White Crappie have remained more stable, not because of poor reproduction during spring flooding, but due to reservoir releases and (mainly) angler harvest. Sampling will resume when the lake refills.

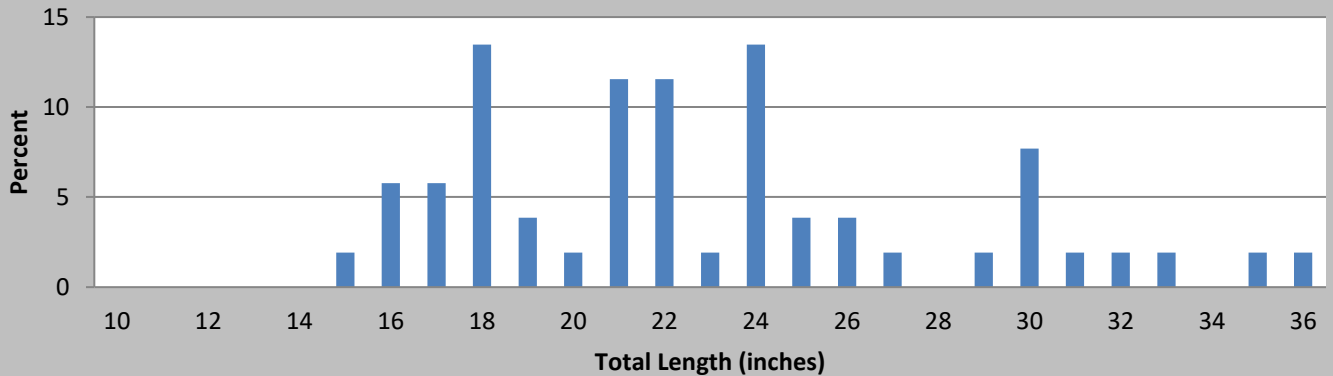
Largemouth Bass



Crappies



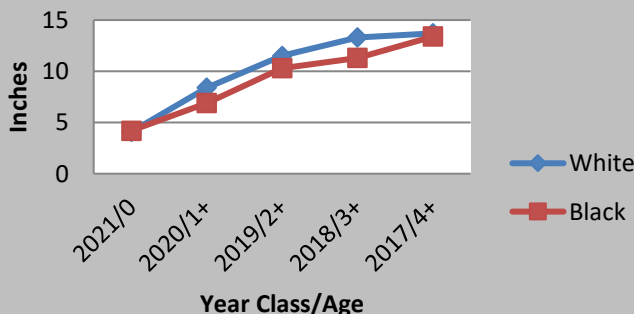
Blue Catfish



Above: Length distributions, fall electrofishing, 2021. Most bass were from recent year classes. There have been good spawns of bass, crappie, and many other fish since 2018. FCR bass populations fluctuate mostly from environmental factors (mainly water levels) since angler harvest is low. Blue Catfish (“white humpbacks” or “white river cats”) of good size were common.

Below: Growth rates for crappie, fall 2021. Not all crappie were aged. Odd growth patterns (graph, left) were due to small sample sizes of older fish (table, right). Crappie spawning success is usually better during high water, which has occurred 2018 - 2020. Black Crappie grew slower than White Crappie, which is normal for the FCRs. Most White Crappie grow over 12 inches just after their third “birthday”; it takes about a year longer for Black Crappie.

Crappies, Length at Age



Year Class	Age	# White Crappie aged	Average Length (inches)	# Black Crappie aged	Average Length (inches)
2021	0	20	4.1	31	4.2
2020	1+	26	8.4	18	6.9
2019	2+	20	11.5	15	10.3
2018	3+	11	13.3	2	11.3
2017	4+	3	13.7	1	13.4

Fish Harvest and Fishing Effort: MDWFP fisheries biologists conduct an angler survey every four years on each FCR to assess fishing effort, harvest, and catch rates. Other information gathered includes angler origin, expenses, bait, tackle, etc. Angler surveys will resume after the lake refills.

Most of Arkabutla's anglers fish for crappie, often using multiple poles (right, top). Catfishes and Largemouth Bass are other popular targets, with White Bass and bream making up the remainder.

Normally, about two-thirds of anglers come from adjoining Tate and Desoto counties. About 20% come from the Memphis (TN) area (excluding Desoto County). Less than 10% come from out-of-state (other than Memphis). Arkabutla has been famous for crappie quality (right), not quantity. The smallest of the "Big Four" lakes, surveys have shown similar fishing pressure (hours per acre) to the other FCRs. Until the dam is repaired, most fishing will be from the banks (bottom).



Lake Characteristics: Arkabutla normally fluctuates 10 ft yearly following a “rule curve” based on rainfall patterns; it rises and falls a month later than the other FCRs. Due to its shallowness and large watershed, the lake has overtopped its emergency spillway more often than the other FCRs. For water levels (rule curve vs actual water level), see <http://www.mvk-wc.usace.army.mil/docs/bullet.txt> for a table or <http://www.mvk-wc.usace.army.mil/plots/arkaplot.png> for a graph. The normal rule curve will not resume until dam repairs are completed.

Low water from drawdowns and droughts lets moist soil vegetation colonize mudflats (below left) for fish habitat when water levels rise again. Flooding (below right) expands fish habitat but reduces angler access. Aquatic vegetation is scarce; non-native water hyacinth is being monitored and controlled by MDWFP and COE. The fluctuation zone (winter to summer pool) had very little cover; the emergency drawdown and dam repair will likely rejuvenate habitat in this area.



Spillway: The reservoir spillway (below, left) is also a popular fishing destination; however, it will be off limits to the public during the dam repair period for safety reasons. The Coldwater River allows entry into the spillway by many wide-ranging fishes, such as Asian carps (below, right; Silver Carp, top, Bighead Carp, bottom) from the Mississippi River. Regulations prohibit anglers from keeping alive bait fish captured in the spillway that could be moved to other waters to prevent the spread of these nuisance, non-native fishes. Uncommon species in the spillway may include Paddlefish, American Eel, Striped Bass, and Hybrid Striped Bass.

