



Grenada Reservoir 2024

REEL FACTS

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General Information: Grenada Reservoir is one of four flood control reservoirs (FCRs) in north Mississippi. Built by the US Army Corps of Engineers (COE) in 1954 on the Yalobusha River, it is the largest FCR with a summer pool of 35,820 ac. Water levels follow an annual rule curve but deviate from it due to local precipitation and COE spillway gate operations. The reservoir is lowered in fall to winter pool (9,800 ac); flood pool is 64,600 ac. The state’s largest lake is a popular destination for crappie and catfish anglers.

Location/Contact: 3 miles northeast of Grenada, MS. COE office (662) 226-5911.

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

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

Amenities

- 10 concrete fee ramps.
- Bait shops in Grenada.

Creel and Size Limits

The following apply to the reservoir, but 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 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 the license holder’s MDWFP number or the angler’s name and address. Gear 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, **look** 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.

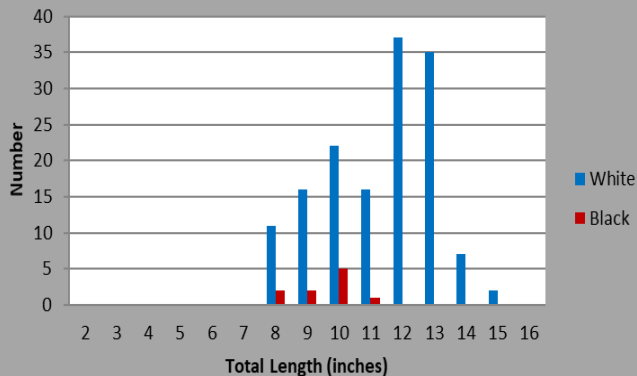
Bream

- Fish crickets or redworms near cover.

Catfish

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

Crappie, Spring 2023

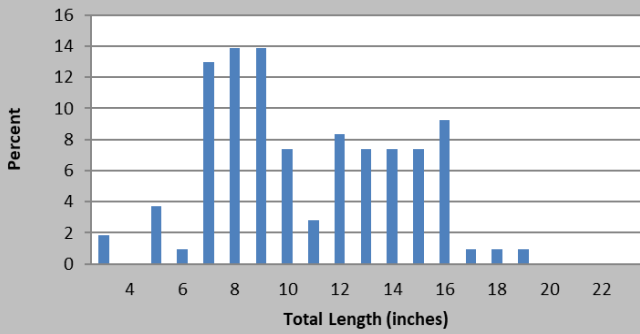


Above: Crappie length distributions from spring 2023 electrofishing. Sampling in April found abundant crappie; 94% were White Crappie (angler harvest was nearly 100% White Crappie, page 4). Normal for spring, most crappie were spawning adults. Small, sexually immature crappie usually stay offshore. 56% of White Crappie were over 12 inches long (legal size). Fish spawned for an extended period during the late, cool spring.

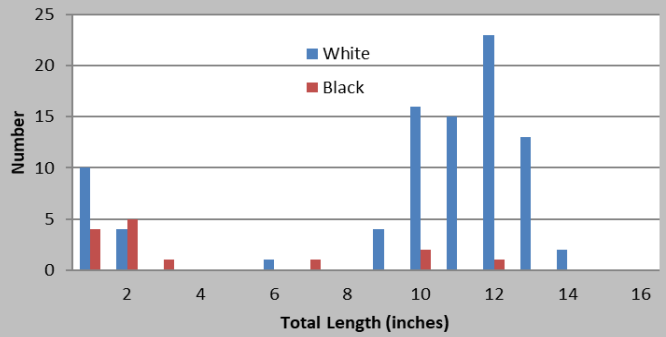
Below: Fall 2023 electrofishing results. Shad were numerous, but mostly small. Threadfin Shad likely came in from private waters; they usually winterkill after a few years. A few hybrid shad (Gizzard X Threadfin) were seen - a normal occurrence. Largemouth Bass were abundant due to fish spawned during high water years (2018 – 2021). Bluegill (bream) numbers were down with more normal water levels since 2021. Bass, bream, and Black Crappie numbers fluctuate with water levels more than open water fish like shad and White Crappie.

Species	# of fish collected	% of sample	Average Length (inches)	Maximum Length (inches)	Average Weight (pounds)	Catch Rate – Adult fish (fish/mile)
Gizzard Shad	620	41	3.2	9.5	<.1	8
Threadfin Shad	185	12	2.2	3.5	<.1	0 (all)
Largemouth Bass	108	7	11.2	19.2	0.9	44
White Crappie	88	6	10.3	14.2	0.8	42
Bluegill	81	5	3.4	7.8	<.1	23
White Bass	18	1	9.4	16.8	0.5	8
Black Crappie	14	1	4.6	12.2	0.2	1
Blue Catfish	12	1	20.7	36.4	5.0	7
Channel Catfish	11	1	11.1	17.2	0.4	5
Hybrid Shad	10	1	3.2	4.3	<.1	0
Flathead Catfish	6	0	11.1	19.7	0.7	<1
Redear Sunfish	2	0	5.4	5.6	0.1	1

Largemouth Bass



Crappies

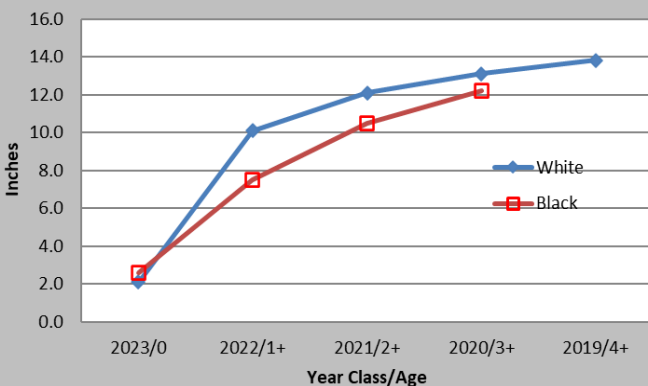


Above: Length distributions for fall 2023 electrofishing. Most bass were from the 2018 – 2021 high water years. Flood control reservoirs (FCR) bass populations fluctuate mainly from environmental factors (water levels) since angler harvest is low. Most White Crappie were from the 2021-year class (near 12 inches in fall, near 10 inches in spring, page 2).



Below: Growth rates for crappie, fall 2023. Not all fish were aged. Age 0 White Crappie were smaller than normal due to the late spawn. Fewer Age 0 crappie were collected than seen due to gull predation before they could be netted. Despite high water, the 2020-year class was weak. No older, larger crappie were seen; not that they were absent, but they were too rare to show up in the number of fish collected. Fish up to Age 7+ were seen in fall 2020. Black Crappie grew slower than White Crappie, which is normal for the FCRs. It takes about a year longer for Black Crappie to grow over 12 inches.

Crappies, Length at Age



Year Class	Age	# White Crappie aged	Average Length (inches)	# Black Crappie aged	Average Length (inches)
2023	0	9	2.1	6	2.6
2022	1+	17	10.1	1	7.5
2021	2+	22	12.1	2	10.5
2020	3+	3	13.1	1	12.2
2019	4+	12	13.8	-	-

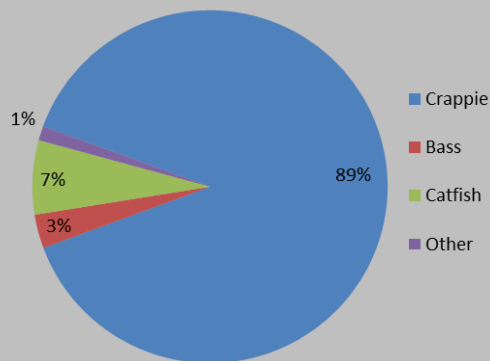
Fish Harvest and Fishing Effort: Most anglers fished for crappie in 2023 (right, top). Crappie and catfish were 98.8% of harvest (right, bottom). White Crappie (below, right) were almost 100% of crappie harvested.

Harvest and effort varied by month (left, top). Peak effort was in March, but peak harvest was in April (late spawn). Anglers fished about 342,000 hr and kept about 226,000 lb of fish.

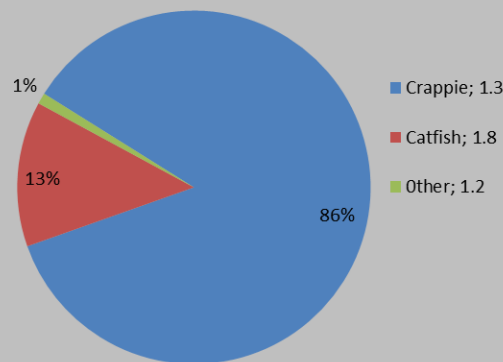
Harvest and effort fell 63% and 34%, respectively, from 2019 (left, bottom), a flood year. Part of the decline was from fish populations readjusting to lower lake levels. Another likely explanation was from increased angler harvest in 2020 – 2022 resulting from improved fishing technologies, and Grenada’s reputation as the nation’s top trophy crappie lake.

40% of anglers were non-residents; out-of-pocket expenses (fuel, food, bait, etc.) were about \$9 million, down 25% from 2019.

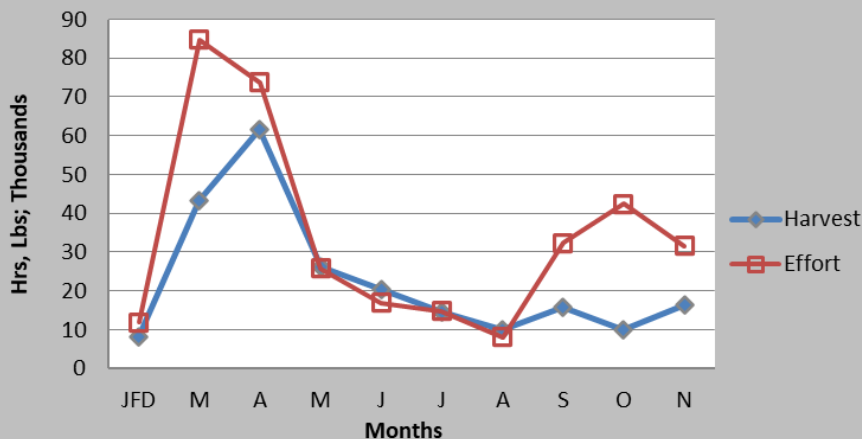
Targeted Species, Grenada 2023



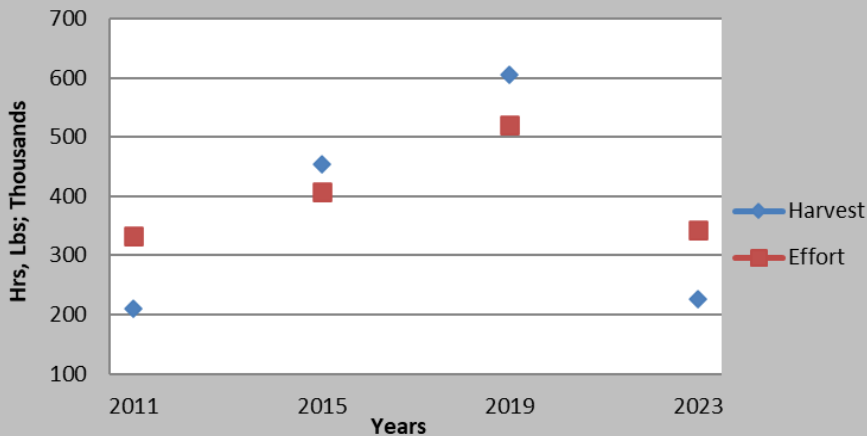
Harvest: % Wt, Avg Wt, Grenada 2023



Monthly Harvest and Fishing Effort Grenada 2023



Annual Harvest and Fishing Effort Grenada



Lake Characteristics: Grenada normally fluctuates 12-ft annually following a “rule curve” based on seasonal rainfall patterns. For water levels (rule curve vs actual water level), see <http://mvk-wc.usace.army.mil/docs/bullet.txt> for a table or <http://mvk-wc.usace.army.mil/plots/grenplot.png> for a graph or <http://www.mvk-wc.usace.army.mil/resrep.htm> for both. Due to its shallowness, Grenada exceeds its emergency spillway more than the deeper FCRs (Sardis, Enid). Rapid fluctuations can make it challenging to find and pattern fish.

Fall drawdowns and droughts let vegetation colonize moist mudflats (below left) that provide fish habitat when water levels rise again. Flooding brings in nutrients and expands fish habitat. Aquatic vegetation is scarce due to fluctuating lake levels, but there are abundant shoreline trees and shrubs at higher water levels. The fluctuation zone (winter to summer pool, below right) has very little cover other than dead timber, some live trees and shrubs, and colonized vegetation.



Lake Characteristics: Grenada’s rule curve and rainfall sometimes result in low water during the spring spawning season and/or limited vegetation colonization during the fall drawdown. However, the Grenada Reservoir Core of Engineers (COE) sponsors a Habitat Day in winter when the water is low. Materials are placed in the fluctuation zone with the assistance of MDWFP and volunteers (right, top and bottom) to provide fish habitat when the water comes back up. Although beneficial, these artificial structures do not begin to replace the quantity or quality of habitat created by naturally colonized vegetation during low water periods or flooded during high water events.



Spillway: The Grenada Reservoir spillway is also a popular fishing destination for catfish and crappie. Crappie in the spillway are dependent on reservoir releases and are caught mostly in winter and early spring; catfish are more common in summer. A concrete ramp into the “old river run” below the dam provides anglers with access. A handicapped accessible pier (middle, left) was opened in 2017 where the spillway channel and old river run meet.

The Yalobusha River below the reservoir allows access into the spillway for a variety of fishes, such as Asian carps (middle, right; Silver Carp, top; Bighead Carp, bottom) from the Mississippi River. Young Asian Carp resemble shad or minnows. Anglers collecting bait fish in the spillway must put them on ice or in a dry container to prevent the spread of these non-native fishes to other waters. Uncommon species caught in the spillway may include Paddlefish, American Eel, Striped Bass, and Hybrid Striped Bass.

In 2019, Grenada Reservoir overflowed its emergency spillway for the first time since 1991 (bottom, left). Grenada also briefly overflowed in 2020. Asian carps that inhabit the river below the dam were constantly jumping in the churning water at the bottom of the spillway (bottom, right) to get upstream. Fortunately, Asian carps have been unable to swim up the spillway tunnel or the emergency spillway overflow and invade the reservoir.

