Grenada Reservoir 2025

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. 10 crappie per day per angler; no more than 25 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.

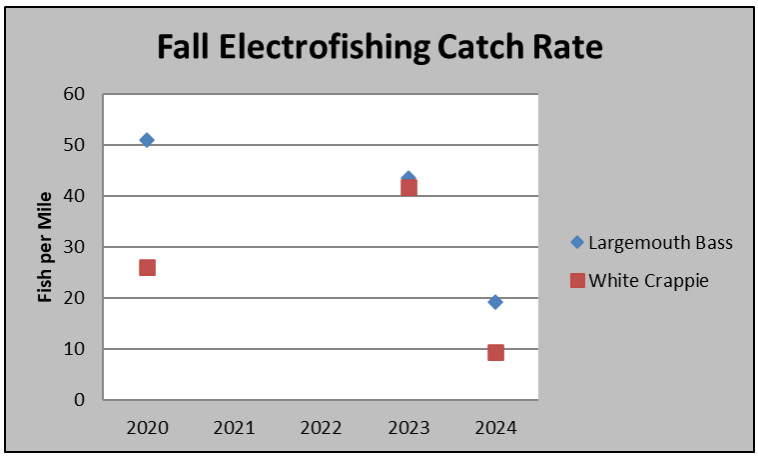
Catfish

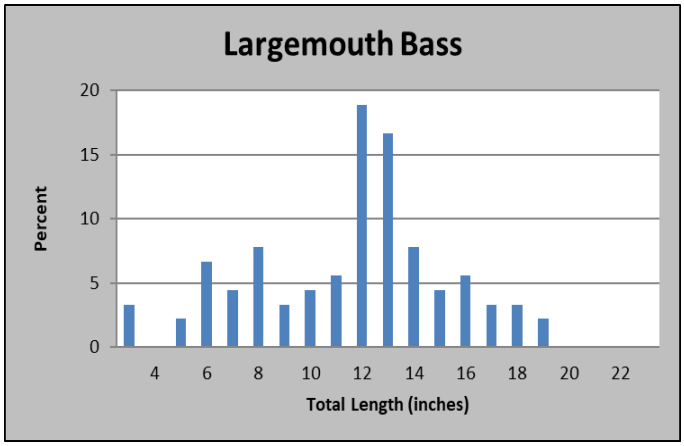
- Fish worms or cut bait in tributaries during runoff or over mudflats if no runoff.

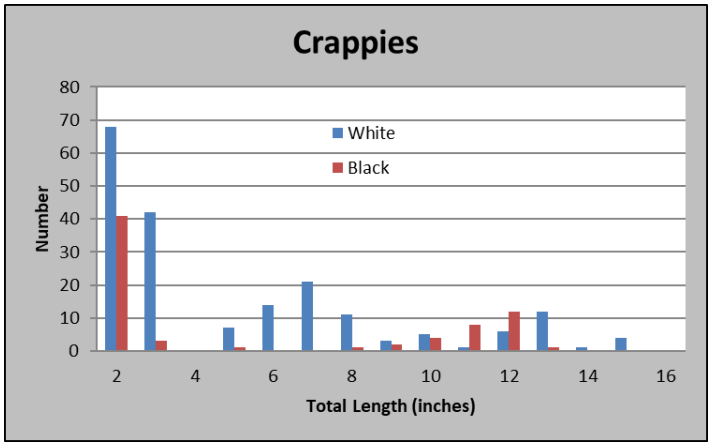
Below: Fall 2024 sampling results. Shad were numerous, but mostly small (below). Bass, Bluegill, and crappie were near historical average catch rates. Two natural White X Black crappie hybrids were seen; they are rare but grow faster than either parent species.

Species	# of fish collected	% of sample	Average Length (inches)	Maximum Length (inches)	Average Weight (pounds)	Catch Rate – Adult fish (fish/mile)
Gizzard Shad	515	57	3.7	14.6	<0.1	2
Largemouth Bass	90	10	12.1	19.5	1.1	19
Bluegill	76	8	3.2	6.7	<0.1	8
White Crappie	66	7	7.2	15.2	0.4	10
Black Crappie	64	7	5.6	13.3	0.3	5
White Bass	33	4	10.4	17.1	0.8	6
Threadfin Shad	25	3	2.2	3.2	<0.1	0
Blue Catfish	15	2	22.8	41.1	6.7	4
Channel Catfish	6	1	9.8	15.8	0.3	<1
Flathead Catfish	4	<1	6.6	9.6	0.2	0
White X Black Crappie	2	<1	6.2	6.8	0.1	1

Below: The fish population has been "readjusting" to normal water levels after several flood years (2018 – 2021). Forage, baitfish, habitat, and nutrients rise with high water but decline as water levels fall. Bass, Bluegill, and Black Crappie fluctuate with water levels more than open water fish (shad and White Crappie) since they are more dependent on shoreline habitat. Also, with the water out of the bushes, fish are more vulnerable to anglers. Bass numbers are not as affected by harvest as crappie since bass fishing is mostly catch-and-release.

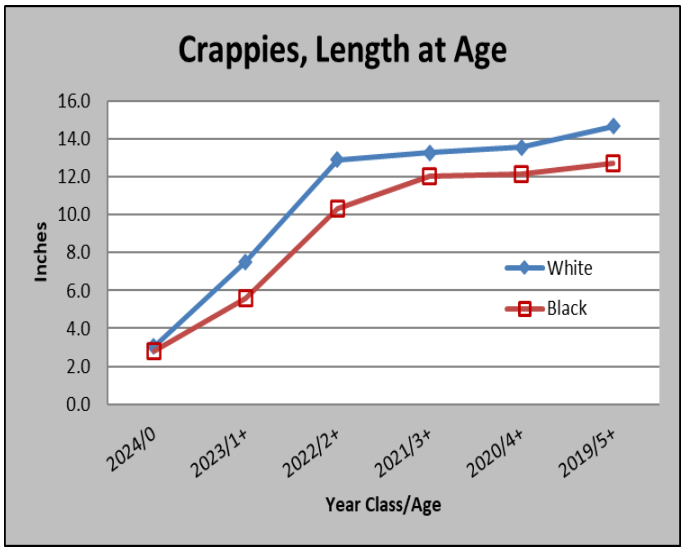






Above: Length distributions for fall 2024 sampling; crappie were caught by electrofishing and netting. Few older, larger bass were seen, but smaller ones were abundant. Flood control reservoir (FCR) bass populations fluctuate mainly from environmental factors (water levels) since angler harvest is low. Most White Crappie were from the 2024-year class (2 - 3 inches). Most "keeper" White Crappie were from the 2022-year class.

Below: Growth rates for crappie, fall 2024. Not all fish were aged. The most abundant fish were those spawned in the spring (Age 0). Note how growth slowed for larger fish when water levels were lower. The 2023-year class was much stronger for White Crappie than Black Crappie that are more dependent on shoreline habitat. Larger White Crappie were from the big 2019-year class, but none older were seen. They may be present, but rare. 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.



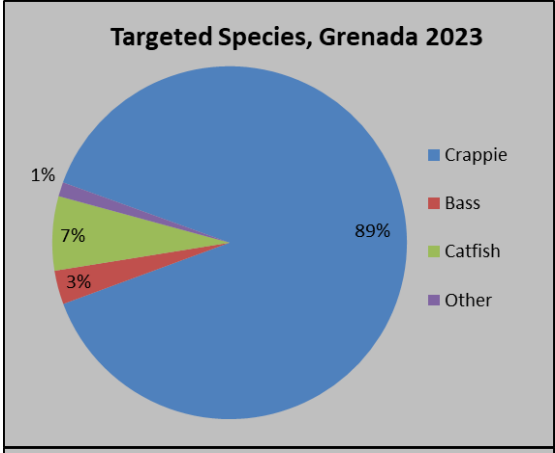
Year Class	Age	# White Crappie aged	Average Length (inches)	# Black Crappie aged	Average Length (inches)
2024	0	22	3.1	15	2.8
2023	1+	49	7.5	1	5.6
2022	2+	8	12.9	7	10.3
2021	3+	3	13.3	16	12.0
2020	4+	5	13.5	4	12.1
2019	5+	6	14.7	1	12.7

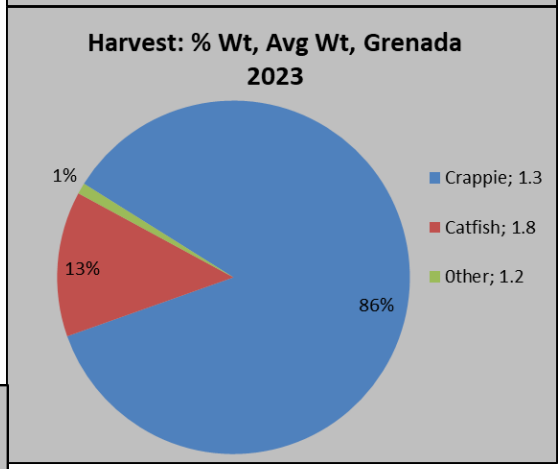
Fish Harvest and Fishing Effort: Most anglers fished for crappie in 2023 (right, top). Crappie and catfish were 98.8% of harvest (right, bottom). White Crappie (below, right) were almost 100% of crappie harvested.

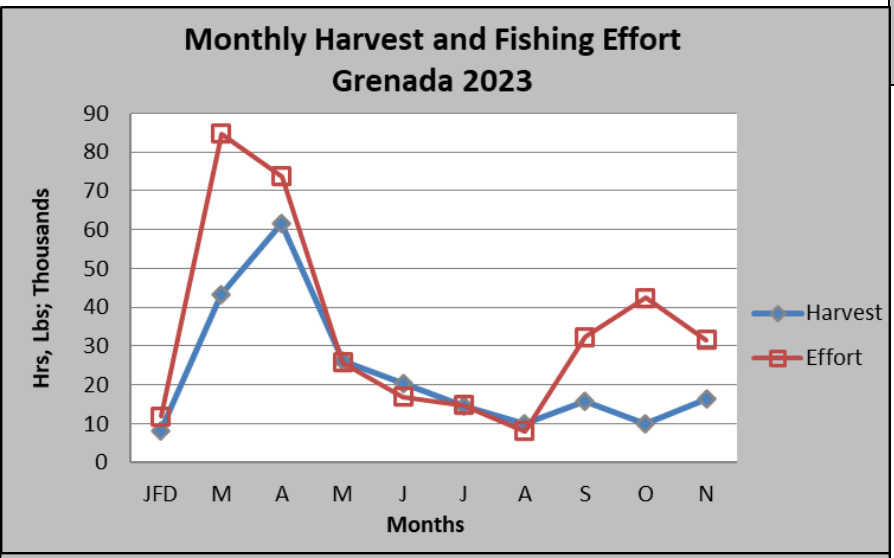
Harvest and effort varied by month (left, top). Peak effort was in March, but peak harvest was in April (late spawn). Anglers fished about 342,000 hr and kept about 226,000 lb of fish.

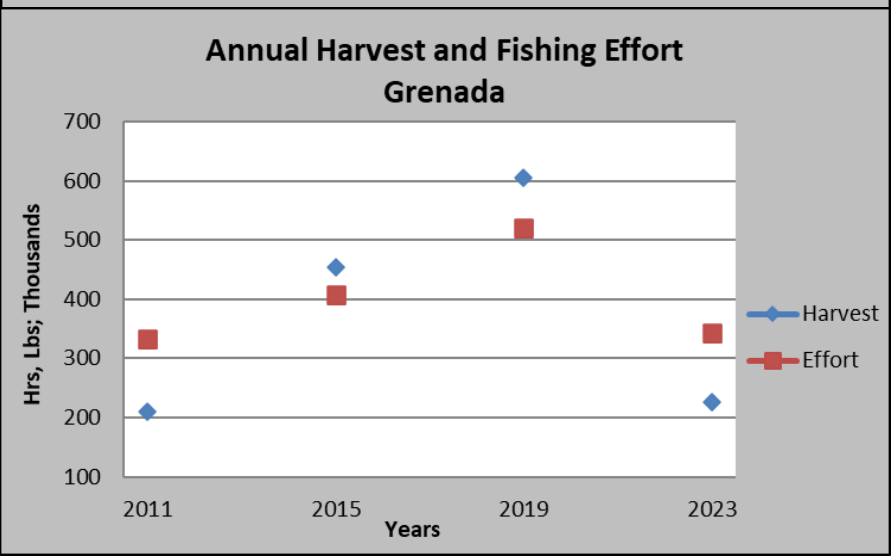
Harvest and effort fell 63% and 34%, respectively, from 2019 (left, bottom), a flood year. Part of the decline was from fish populations readjusting to lower lake levels. Another likely explanation was from increased angler harvest in 2020 – 2022 resulting from improved fishing technologies, and Grenada's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









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 Corps 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 invasive carps (middle, right; Silver Carp, top; Bighead Carp, bottom) from the Mississippi River. Young invasive carps 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. Invasive 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, they have been unable to swim up the spillway tunnel or the emergency spillway overflow and invade the reservoir.