

Beckman Lake 2021 Fisheries Summary Report

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Beckman Lake is an impoundment of Zander Creek located in Green County and has a surface area of 63 acres and a max depth of 12 feet. The lake was constructed in 1965 and filled in 1966. Boaters can access the lake via a boat landing and pier, but the lake is restricted to electric motors only. Because the lake is situated entirely within the Cadiz Springs State Recreation Area, shore fishing opportunities are plentiful. Using the Wisconsin Department of Natural Resources (DNR) classification system that compares lakes of similar physical characteristics, it is classified as a simple, warm dark lake. Beckman Lake is scheduled to receive a fishery survey approximately every eight years, the most recent being in the spring of 2021, in which the DNR performed a single night electrofishing survey on the lake. The goals of this survey were to estimate abundance and size structure of gamefish and panfish species. An additional survey objective was to assess the fish community after the lake was drawn down in 2020 to repair the water control structure. Using a standard DNR electrofishing boat, a survey crew sampled the entire perimeter of the lake, which was divided in two transects. A 0.45 mile "catch all" segment where all fish species were collected, followed by a 1.1-mile segment where only gamefish were collected. Fish species sampled, in order of abundance, included Largemouth Bass, Bluegill, Pumpkinseed, Golden Shiner and Black Crappie.

Gamefish Largemouth Bass were the most abundant fish species collected during the survey. 230 Largemouth Bass were captured at a catch rate of 148.4 bass/mile of shocking. This was the lake's highest catch rate in the past four surveys. Largemouth Bass catch rates, as well as other catch statistics, are presented in Table 1. Compared to catch rates from other simple, warm, dark lakes, the 2021 Beckman Lake catch rate is well above the 75th percentile, and the average catch rate is just above the 75th percentile (Figure 1). Largemouth Bass captured in 2021 averaged 9.9 inches, and only 2.6 percent of the sample was of legal length for angler harvest. The largemouth length frequency indicates a strong years class in the 8-10" range but larger fish up to 19.4" are present (Figure 2). No other gamefish species were captured during the 2021 survey.

Panfish Bluegill, Black Crappie and Pumpkinseed were all captured during the 2021 survey, with Bluegill being the most abundant. 23 Bluegill were captured at a catch rate of 51.1 Bluegill/mile of shocking. This Bluegill catch rate was the 2nd highest in the last four surveys, well below the 434 Bluegill/mile captured in 2011. Bluegill catch rates and other catch statistics are presented in Table 2. Compared to the average catch rate from other similar lakes, the 2021 catch rate is just above the 25th percentile, while the average Beckman Lake Bluegill catch rate is above the median (Figure 3). Bluegill captured in 2021 averaged 6.2" and 69.9% were of quality size, or >6". The Bluegill length frequency indicates several year classes present with fish up to 7.7" (Figure 4). Other panfish species captured during the 2021 survey include Black Crappie and Pumpkinseed. Pumpkinseed were the most abundant and may provide additional angling opportunities as fish up to 7.4" are present (Table 3).

Non-game species Golden Shiner was the only non-game species observed during the 2021 survey. Golden Shiners are an important native minnow species that serve as prey for larger game fishes. Minnows are not consistently captured during lake electrofishing surveys, so they are likely underrepresented in our sample.

Stocking Beckman Lake has a history of winterkill events and lake drawdowns, so fish stocking has been an important management activity. Recently, Beckman Lake has been stocked with Largemouth Bass and Northern Pike, with the last event occurring in 2015 when large fingerling largemouths and small fingerling northern pikes were stocked. Other recent stocking history is presented in Table 4. In 2021, a Northern Pike stocking evaluation was performed on other area lakes and will help inform future decisions about stocking Northern Pike in the area.

Preliminary Management Recommendations

- Promote the simple fishing community dominated by Largemouth Bass and Bluegills for anglers.
- Continue to assess the fish community to track changes over time. Evaluate stocking as a tool for managing the fishery.
- Promote habitat protection and enhancement as it is important to maintaining species diversity and a balanced aquatic ecosystem.
- Protect adjacent wetlands to help improve water quality as wetlands filter surface water draining into the lake.
- Promote watershed best management practices that limit the amount of nutrient laden runoff into the lake will further improve water quality.

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Table 1. Largemouth Bass Catch Statistics. Beckman Lake, 2004-2011

Year	Number Captured	Mean Length (in)	Max Length (in)	Catch Per Effort (mi)	% Legal
2004	130	11.7	17.7	27.4	28.5
2007	1	-	9.1	0.8	0.0
2011	64	10.4	18.3	41.3	14.1
2021	230	9.9	19.4	148.4	2.6

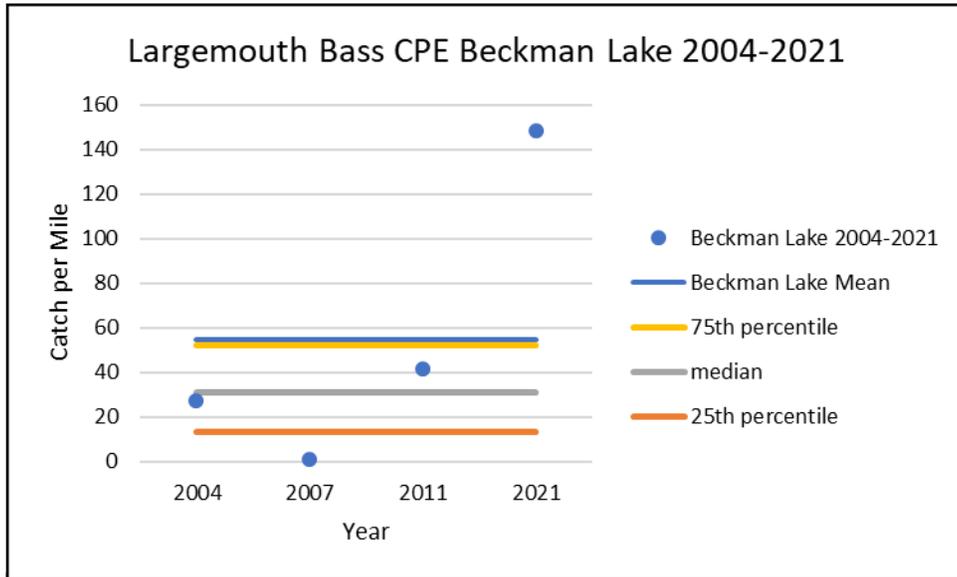


Figure 1. Beckman Lake Largemouth Bass catch per effort (CPE) for 2004, 2007, 2011 and 2021 electrofishing surveys compared to mean CPE for lakes in the same lake class.

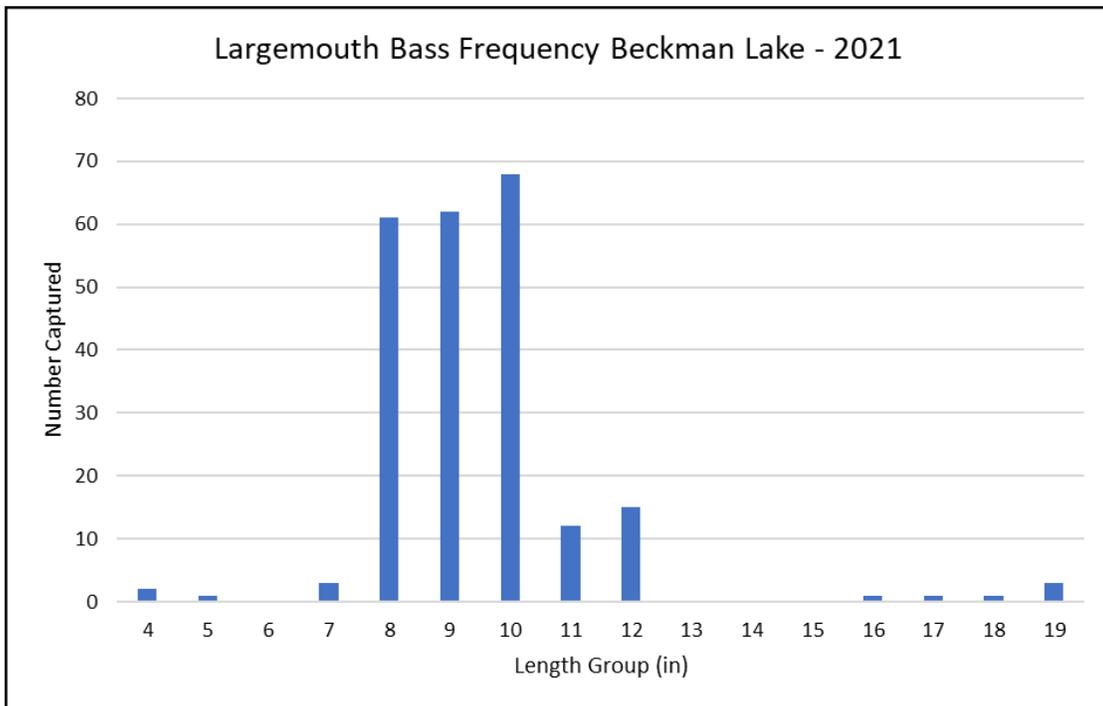


Figure 2. Largemouth Bass length frequency, Beckman Lake, 2021. N = 230.

Table 2. Bluegill Catch Statistics. Beckman Lake, 2004-2011

Year	Number Captured	Mean Length (in)	Max Length (in)	Catch Per	% Quality Size (6")
2004	22	-	-	12.6	-
2007	3	7.1	7.7	2.3	100.0
2011	217	6.0	8.1	434.0	34.0
2021	23	6.2	7.7	51.1	69.6

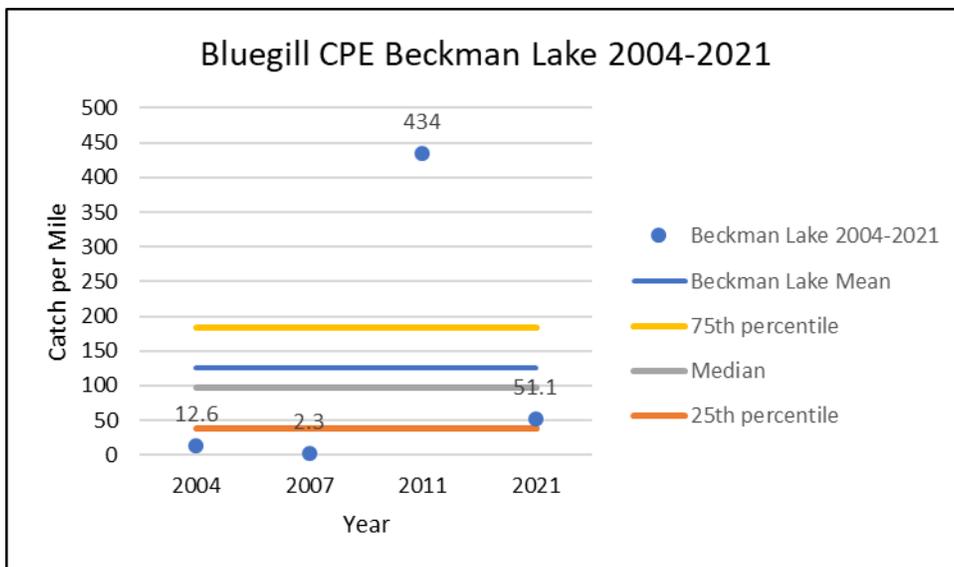


Figure 3. Beckman Lake Bluegill catch per effort for 2004, 2007, 2011 and 2021 electrofishing surveys compared to mean CPE for lakes in the same lake class. 25th percentile, median and 75th percentile CPE values are 38, 97.6, 183.5. Beckman Lake mean CPE value is 125.

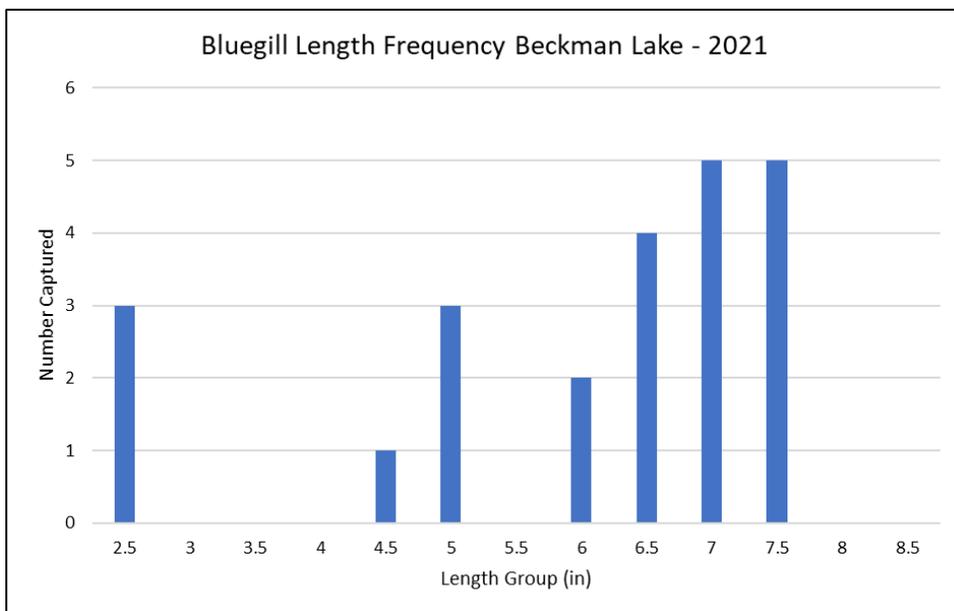


Figure 4. Bluegill length frequency, Beckman Lake, 2021. N = 23.

Table 3. Panfish and Other Species Catch Statistics. Beckman Lake, 2021

Species	Number Captured	Mean Length (in)	Max Length (in)	Catch Per Effort
Black Crappie	1	-	8.6	2.2
Pumpkinseed	5	6.7	7.4	11.1
Golden Shiner	2	-	-	4.4

Table 4. Recent Beckman Lake Stocking History, 2011-Present.

Year	Species	Strain (Stock)	Age Class	Number Stocked	Ave Length (in)
2011	Northern Pike	Madison Chain	Small Fingerling	690	2.65
2011	Largemouth Bass	Unspecified	Large Fingerling	1725	3.3
2012	Northern Pike	Madison Chain	Large Fingerling	138	7.5
2012	Largemouth Bass	Unspecified	Large Fingerling	730	3
2013	Largemouth Bass	Unspecified	Large Fingerling	2817	3
2014	Largemouth Bass	Unspecified	Large Fingerling	818	3.2
2015	Northern Pike	Madison Chain	Small Fingerling	690	2.61
2015	Largemouth Bass	Unspecified	Large Fingerling	1950	1.9