

Fishing access:

There is just a path on the southwest corner of the lake for boat access. It is not the best for launching a larger sized boat. There is access along the dam grade and in a few other spots around the shoreline for shore fishing access, but they may be hindered due to vegetation during the summer.

Condition of all structures (i.e. spillway, boat ramps, level regulators, etc.):

Dam grade is the county gravel road and in good shape. The spillway is also in good shape. The boat ramp is just a path to the water with a hole in the cattails.

Field observations of aquatic vegetation condition:

Emergent vegetation consists of mainly cattails around just over half the shoreline. The submergent vegetation consists of several pondweed species and is found throughout most of the lake.

CHEMICAL DATA

Field observations of water quality and pollution problems:

No pollution problems were evident during the survey period. Water clarity was fine with a secchi disc reading of 2.5 feet. Other water quality characteristics were measured in the field on June 2, 2009, using a HACH water quality kit, an Oyster meter and a YSI 55 meter. Results are found in Table 1.

Presence of a thermocline and depth from surface: No

Station for water chemistry located on attached map: Yes

Table 1. Water chemistry results from Berry Lake, Gregory County, June 2, 2009.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO2 (ppm)	ALK (mg/l)	Hardness (mg/l)	pH	Secchi disc (ft)
A	Surface	66.5	11.37	33.6	224	248	8.00	2.5
A	15	59.0	5.40	49.6	224	297	7.43	

BIOLOGICAL DATA

Methods:

Berry Lake was sampled on June 1-3, 2009, with eight overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. On the evening of October 22, 2009, Berry Lake was electrofished for 30 minutes (3-ten minute transects) with pulse DC. The conductivity reading was 500µS/cm with a water temperature of 42°F. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Electrofishing Catch

Table 2. Total catch from three ten minute runs of fall nighttime electrofishing on Berry Lake, Gregory County, October 22, 2009.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Largemouth Bass	16	100	32.0	± 20.0	160.5	67	50	113

* Two year mean (2003, 2006)

Trap Net Catch

Table 3. Total catch of eight, overnight ¾-inch frame nets at Berry Lake, Gregory County, June 1-3, 2009.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Bluegill	114	57.9	14.3	± 5.7	35.6	21	1	112
Black Crappie	37	18.8	4.6	± 1.6	7.3	13	13	102
Black Bullhead	29	14.7	3.6	± 1.4	5.9	97	66	106
Yellow Perch	13	6.6	1.6	± 1.4	1.8	85	15	105
Largemouth Bass	4	2.0	0.5	± 0.4	0.5	--	--	107

* Twelve year trap net mean (1956, 1967, 1972, 1975, 1978, 1981, 1984, 1987, 1991, 1994, 1997, 2000)

Largemouth Bass

Berry Lake continues to contain a largemouth bass population, although it has declined significantly. The electrofishing CPUE of 32.0 is well below the 117 from 2006 and the 160.5 two year mean (Table 2). The biggest change to cause the decline is the lack of substock and stock sized fish (Figures 1-3). The 2003 and 2006 surveys had an abundance of small fish that have been lost in the 2009 survey. Condition is good with a mean Wr of 113. Growth is good with means right on with statewide, regional and SLI means (Table 4). This population will have to be further monitored as they are the only top level predator in Berry to control the abundant panfish species.

Table 4. Average back-calculated lengths (mm) for each age class of largemouth bass sampled from Berry Lake, Gregory County, 2009.

Year Class	Age	N	Back-calculated Age							
			1	2	3	4	5	6	7	
2008	1	5	90							
2005	4	1	116	190	220	322				
2003	6	1	78	125	238	291	357	396		
2002	7	2	95	161	226	278	317	355	397	
All Classes		9	95	159	228	297	337	375	397	
Statewide Mean			96	182	250	305	342			
Region II Mean			105	183	246	296	328			
SLI* Mean			99	183	246	299	332			

* Small Lakes and Impoundments

Figure 1. Length frequency histogram for largemouth bass sampled from Berry Lake, Gregory County, 2009.

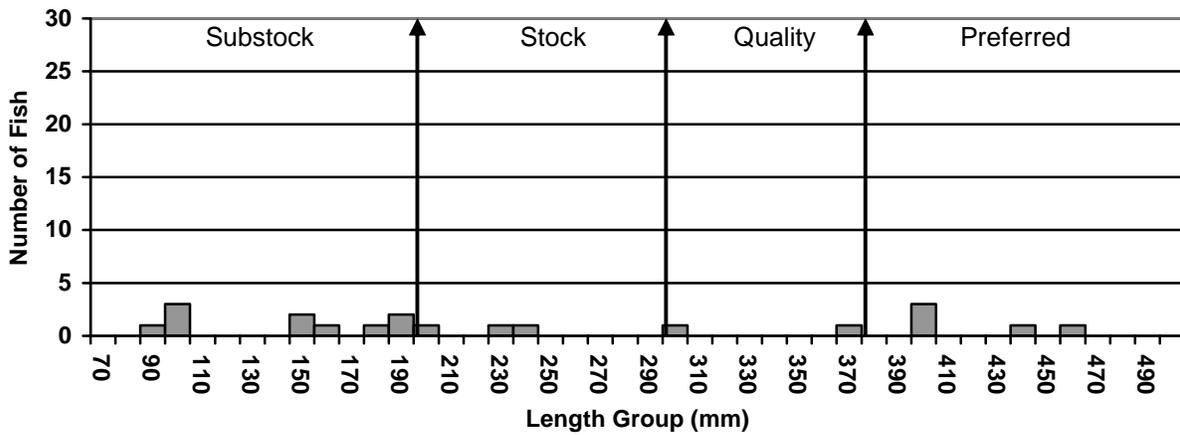


Figure 2. Length frequency histogram for largemouth bass sampled from Berry Lake, Gregory County, 2006.

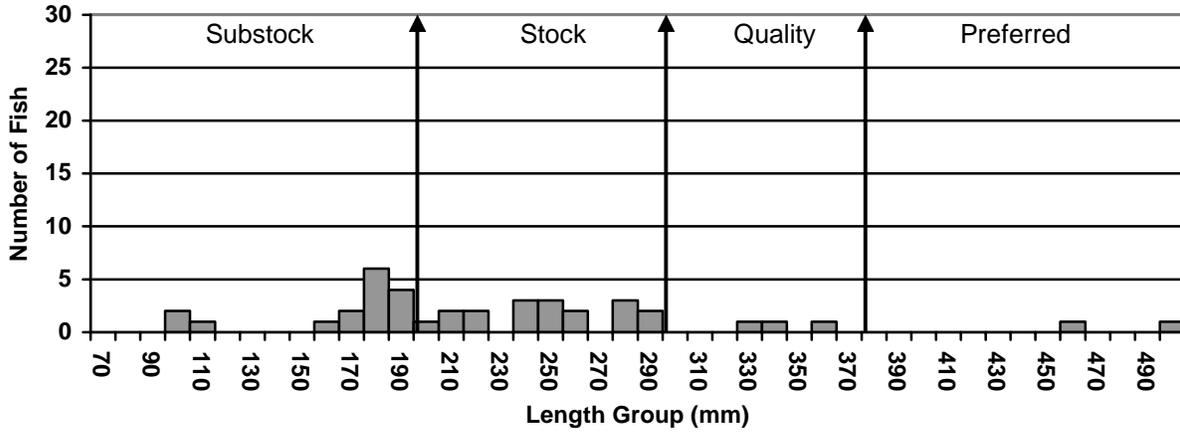
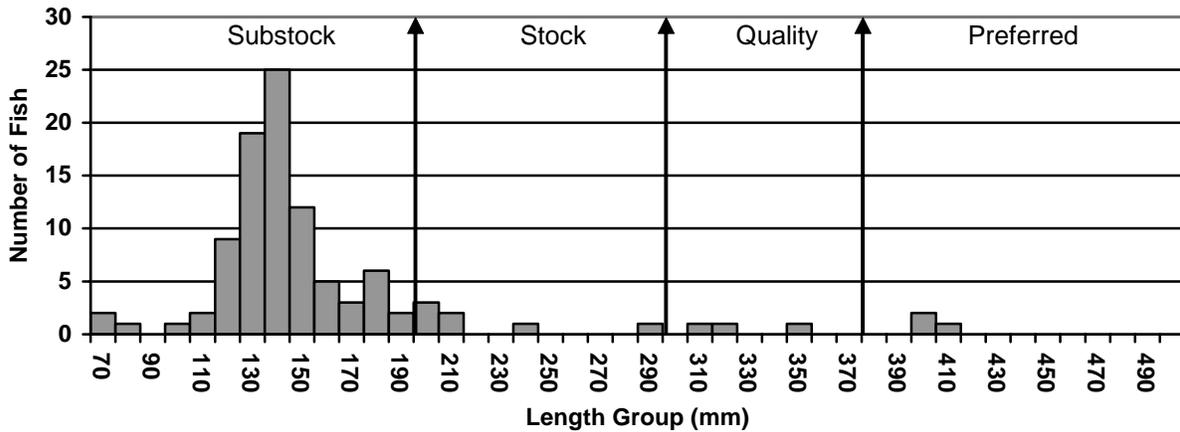


Figure 3. Length frequency histogram for largemouth bass sampled from Berry Lake, Gregory County, 2003.



Bluegill

The bluegill population in Berry Lake continues to be the dominant species surveyed. The survey was changed up back to summer netting compared to fall electrofishing, so comparisons will be made back a couple surveys. The CPUE was 14.3, which is well below the 41.4 from the last netting survey in 2000 (Table 7) and well below the 35.6 twelve year mean (Table 3). Condition remains good with a mean Wr of 112. Growth also remains good with means right around statewide, regional and SLI means (Table 5). Size structure has stayed about the same with the PSD of 21 and RSD-P of 1 compared to the PSD of 14 with an RSD-P of 0 from 2006. Figures 4-7 better illustrate the subtle changes in the size structure of this bluegill population over the past 4 surveys.

Table 5. Average back-calculated lengths (mm) for each age class of bluegill sampled from Berry Lake, Gregory County, 2009.

Year Class	Age	N	Back-calculated Age					
			1	2	3	4	5	
2007	2	49	47	96				
2006	3	36	40	79	123			
2005	4	10	40	85	132	153		
2004	5	3	43	75	135	157	175	
All Classes		98	43	84	130	155	175	
Statewide Mean			55	103	141	166	180	
Region II Mean			52	97	134	164	180	
SLI* Mean			53	101	138	163	180	

* Small Lakes and Impoundments

Figure 4. Length frequency histogram for bluegill sampled from Berry Lake, Gregory County, 2009.

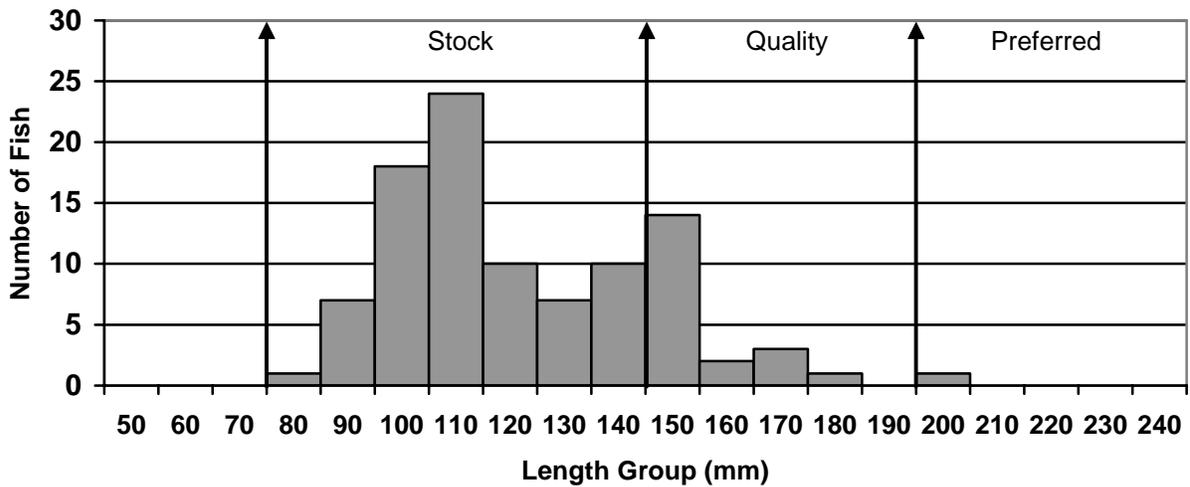


Figure 5. Length frequency histogram for bluegill sampled from Berry Lake, Gregory County, 2006.

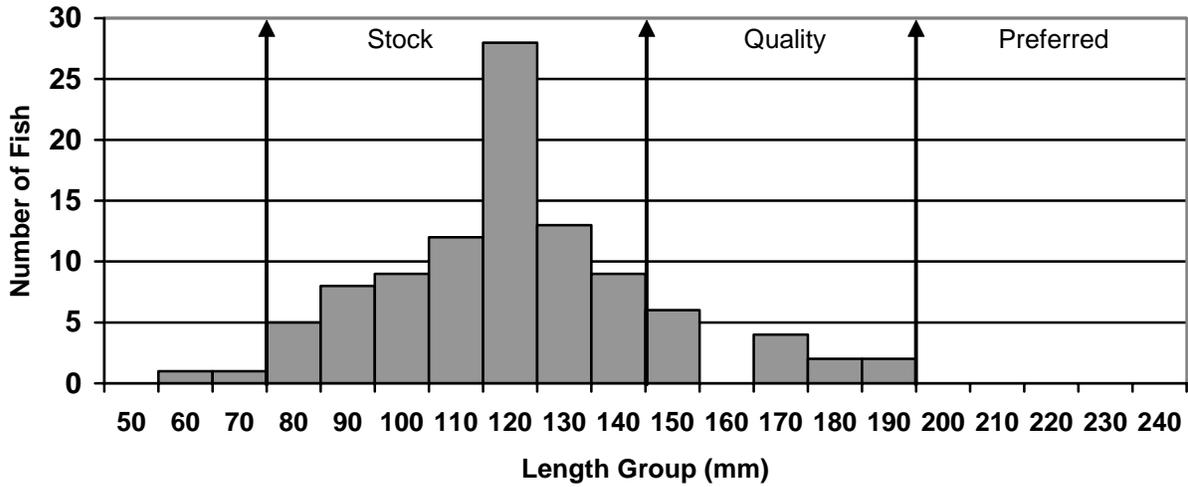


Figure 6. Length frequency histogram for bluegill sampled from Berry Lake, Gregory County, 2003.

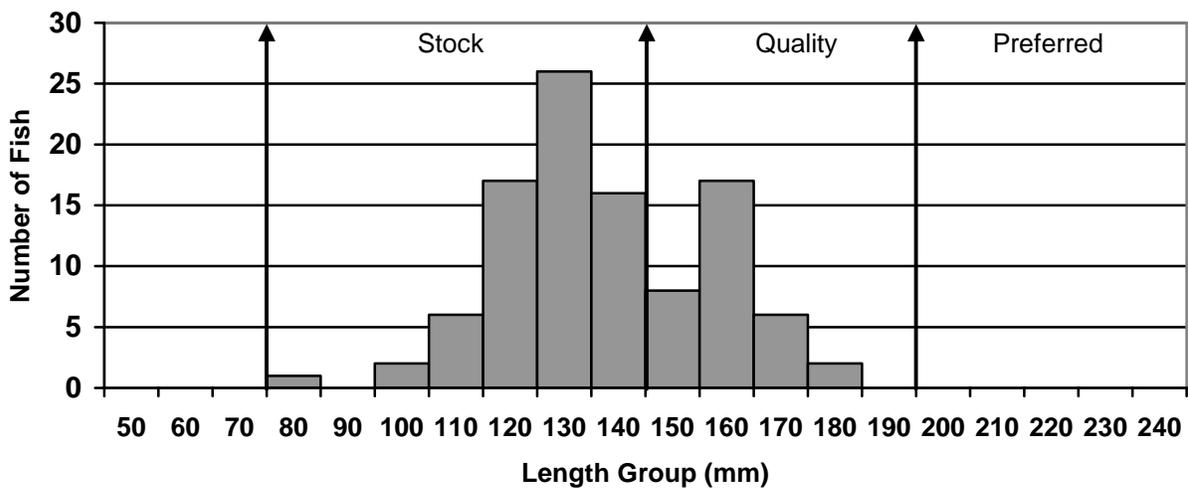
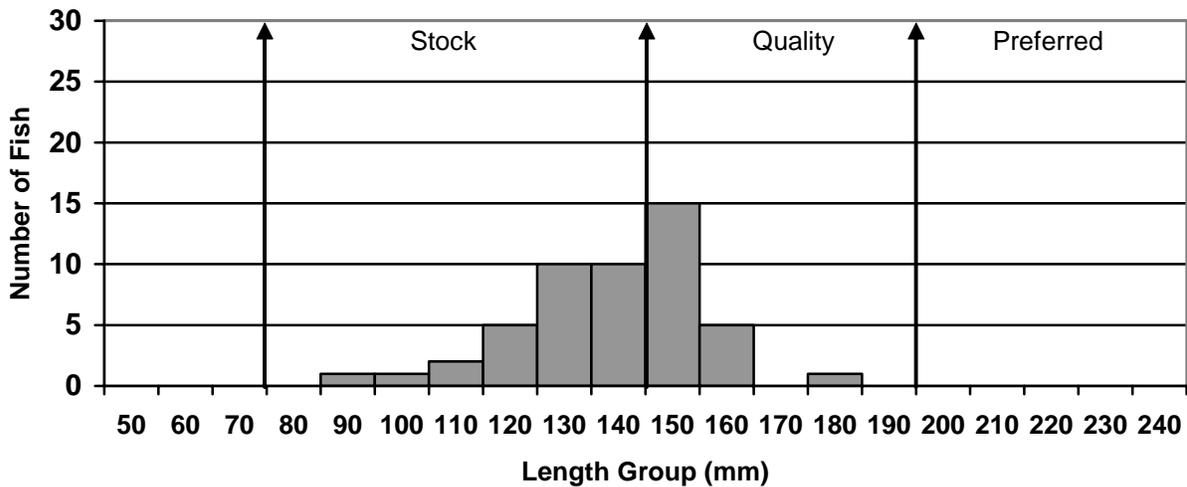


Figure 7. Length frequency histogram for bluegill sampled from Berry Lake, Gregory County, 2000.



Black Crappie

Black crappies were once again sampled during this survey period. The CPUE was 4.6 and the second most dominant species sampled during the netting portion (Table 3). Size structure has improved with a PSD of 13 and an RSD-P of 13 compared to the PSD of 14 with an RSD-P of 0 from 2006. This improvement can also be seen in Figures 8 and 9. Condition is good with a mean Wr of 102. Growth is also good with means slightly above statewide, regional and SLI means (Table 6).

Table 6. Average back-calculated lengths (mm) for each age class of black crappie sampled from Berry Lake, Gregory County, 2009.

Year Class	Age	N	Back-calculated Age						
			1	2	3	4	5	6	
2008	1	7	91						
2007	2	24	88	170					
2006	3	2	85	136	172				
2005	4	2	102	167	224	273			
2004	5	1	88	159	205	243	279		
2003	6	1	102	193	234	259	273	285	
All Classes		37	93	165	209	258	276	285	
Statewide Mean			83	147	195	229	249		
Region II Mean			75	132	177	209	235		
SLI* Mean			78	134	180	209	226		

* Small Lakes and Impoundments

Figure 8. Length frequency histogram for black crappie sampled from Berry Lake, Gregory County, 2009.

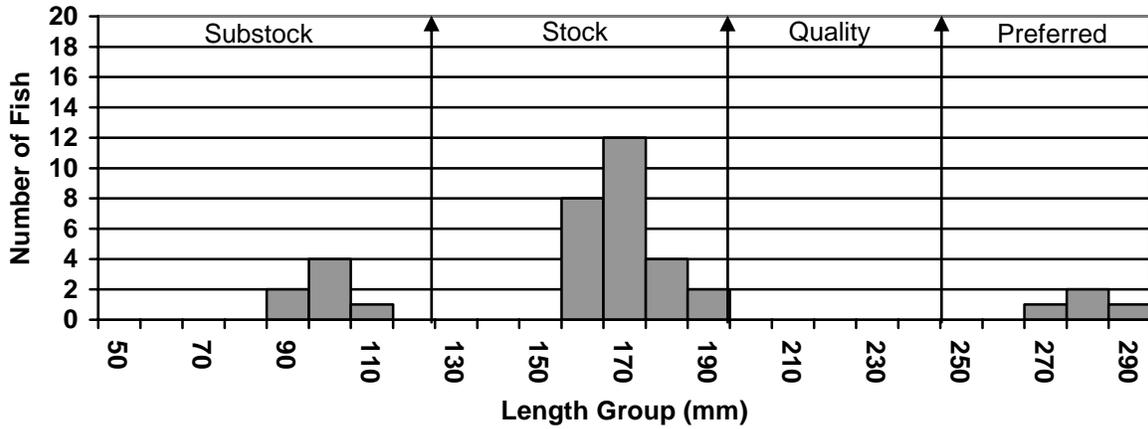
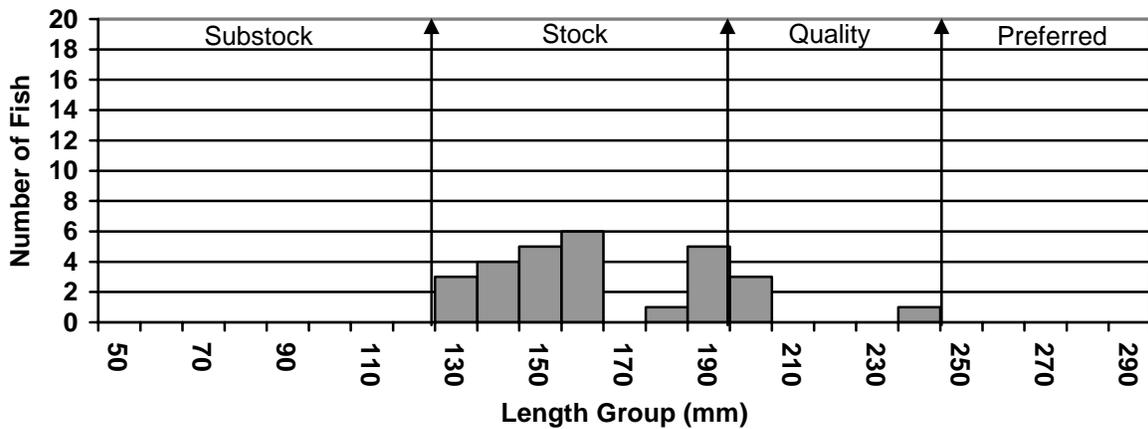


Figure 9. Length frequency histogram for black crappie sampled from Berry Lake, Gregory County, 2006.

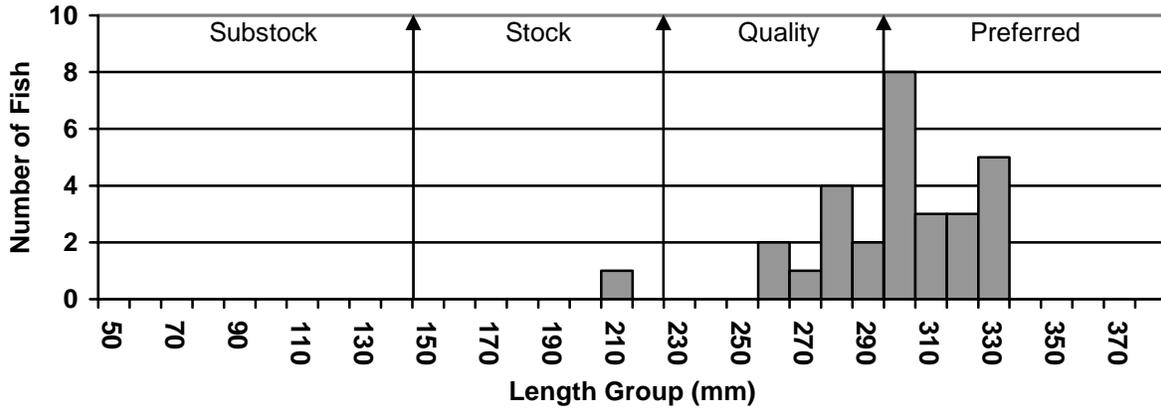


Other species

Black bullhead and yellow perch were the only other species sampled this survey period. Neither species was sampled in large enough numbers to make any conclusions about their populations. Figure 10 does illustrate the size structure of the black bullheads that were sampled this survey. Condition of both species was good (Table 3).

Walleye, common carp, green sunfish, and hybrid sunfish were the only species not sampled that have been in surveys past (Table 7).

Figure 10. Length frequency histogram for black bullhead sampled from Berry Lake, Gregory County, 2009.



Stocking records: No stockings have been done in the last ten years to report.

RECOMMENDATIONS

1. Remove bluegills to help the stunting problem occurring and to help the largemouth bass get a head of them. This will also help all other species increase their growth rates and size structure.
2. Resurvey in 2012 to monitor the fish populations found in Berry Lake.

Table 7. Gill net (GN), trap net (TN) and electrofishing (EF) CPUE for all fish species sampled in Berry Lake since surveys were started.

Species	1956	1967	1972	1975	1978	1981	1984	1988	1991	1994	1997	2000	2003	2006	2009
BLB (EF)	--	--	--	--	--	--	--	--	--	--	--	--	22.5	9.0	--
BLB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLB (TN)	0.6	19.3	20.0	4.0	11.0	0.6	1.4	2.6	2.4	0.5	1.0	6.9	--	--	3.6
BLC (EF)	--	--	--	--	--	--	--	--	--	--	--	--	36.0	84.0	--
BLC (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLC (TN)	--	--	--	--	--	--	7.6	54.8	1.5	5.5	16.8	1.3	--	--	4.6
YEP (EF)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
YEP (GN)	--	--	--	--	3.0	23.0	--	--	--	--	--	--	--	--	--
YEP (TN)	0.1	7.0	0.7	--	1.8	4.8	2.4	2.1	0.3	0.3	1.3	0.5	--	--	1.6
LMB (EF)	--	--	--	--	--	--	--	--	--	--	--	--	204.0	117.0	32.0
LMB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LMB (TN)	0.1	--	0.7	2.8	1.3	0.3	--	0.3	0.3	0.3	--	--	--	--	0.5
WAE (EF)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WAE (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WAE (TN)	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COC (EF)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COC (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COC (TN)	--	--	--	--	--	--	--	--	--	--	--	0.1	--	--	--
BLG (EF)	--	--	--	--	--	--	--	--	--	--	--	--	619.5	2175.0	--
BLG (GN)	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	--
BLG (TN)	94.3	24.0	48.7	42.8	90.3	29.0	3.8	7.3	12.1	6.9	27.1	41.4	--	--	14.3
GSF (EF)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSF (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSF (TN)	--	--	--	0.3	1.0	0.3	--	0.8	--	--	--	--	--	--	--
HYB (EF)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HYB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HYB (TN)	--	--	--	--	--	--	--	--	--	0.3	--	--	--	--	--

BLB-Black Bullhead, BLC-Black Crappie, YEP-Yellow Perch, LMB-Largemouth Bass, WAE-Walleye, COC-Common Carp, BLG-Bluegill, GSF-Green Sunfish, HYB-Hybrid Sunfish