

Fishing access:

A new boat ramp was constructed on the west side of the lake for access. There is also shore fishing opportunities all around the lake due to the lake being entirely on public land. Shore fishing may be limited during the summer months due to the emergent and submergent vegetation.

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

The dam grade and concrete water regulation structure are all in good condition. The boat ramp is new.

Field observations of aquatic vegetation condition:

Emergent vegetation covers most of the shoreline and consists of mainly cattails. There is also heavy submergent vegetation in the shallow bay areas out to a depth of around 4.5 feet. Submergents are a mixture of pondweed species.

CHEMICAL DATA**Field observations of water quality and pollution problems:**

The main degrading factor is siltation and nutrients from a nearby farm yard flowing into the watershed of the lake. This provides excess nutrients, which results in heavy vegetation growth. Water clarity is fair 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 Beaulieu Lake, Tripp 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	68.2	9.10	72.6	292	342	7.78	2.5
A	14	64.2	4.70	80.4	500	335	7.52	

BIOLOGICAL DATA

Methods:

Beaulieu Lake was sampled on June 1-3, 2009, with ten overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. No experimental gill nets were set during this sampling period. No electrofishing was done this survey period. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Trap Net Catch

Table 2. Total catch of ten overnight ¾ inch mesh frame nets at Beaulieu Lake, Tripp County, June 1-3, 2009.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Bluegill	389	99.0	38.9	± 13.1	1.5	56	1	127
Largemouth Bass	4	1.0	0.4	± 0.4	2.0	--	--	115

*One year mean (2004, winterkill in 2000-01 and no fish in 2002, also winterkill in 2006-07)

Bluegill

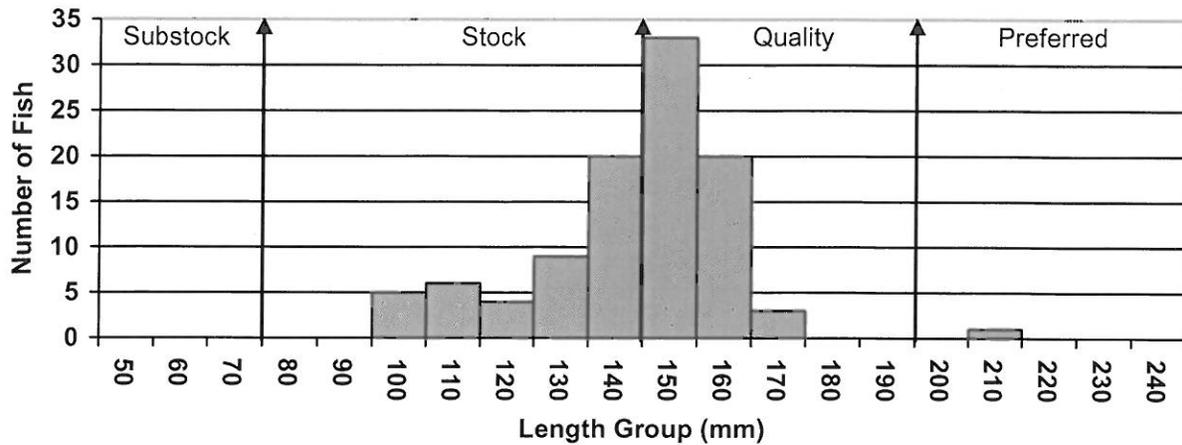
The bluegill population in Beaulieu Lake has really started to boom. The CPUE has jumped to 38.9 (Table 2). No real comparisons can be made to past populations as the lake has suffered 2 winterkills in the past 10 years. This population appears to be on the right track. Condition is excellent with a mean Wr of 127, indicating that the lake could support a higher density yet. Growth is also good with means right around statewide, regional and SLI* means (Table 3). Size structure is developing with a PSD of 56 and an RSD-P of 1 (Table 2). This population will have to be monitored and adjustments made as needed.

Table 3. Average back-calculated lengths (mm) for each age class of bluegill in Beaulieu Lake, Tripp County, 2009.

Year Class	Age	N	Back-calculated Age						
			1	2	3	4	5	6	7
2007	2	53	44	119					
2006	3	47	47	108	141				
2002	7	1	47	122	130	162	190	198	206
All Classes		101	46	116	136	162	190	198	206
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 1. Length frequency histogram for bluegill sampled by electrofishing from Beaulieu Lake, Tripp County, 2009.



Other Species

Largemouth bass was the only other species sampled during this survey period. The CPUE was low with a CPUE of 0.4 (Table 2), which is actually about normal for Beaulieu Lake for trap nets. No electrofishing was done due to poor weather conditions that developed the evening the lake was to be sampled. If electrofishing was done, bass numbers would have more than likely been much higher.

Black bullhead, black crappie, white crappie, yellow perch, northern pike, channel catfish, walleye, green sunfish, and golden shiner were the species not sampled this survey that had been in past surveys (Table 5).

Table 4. Stocking records for Beaulieu Lake since the winterkill during the winter of 2000-01.

Year	Number	Species	Size
2001	2,600	Largemouth Bass	Fingerling
2008	100	Largemouth Bass	Juvenile
2008	3,680	Largemouth Bass	Fingerling

RECOMMENDATIONS

1. Resurvey in 2012 to monitor the status of the largemouth bass and panfish populations to see if any species would need supplemental stocking.

Table 5. Gill net (GN), trap net (TN), and electrofishing (EF) CPUE for all fish species sampled in Beaulieu Lake since surveys started.

Species	1959	1961	1964	1966	1972	1975	1978	1983	1988	1991	1993	1996	1999	2002	2004	2009
BLB (GN)	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--
BLB (TN)	21.8	1.0	--	--	0.5	0.3	--	6.0	3.4	1.6	--	4.8	5.6	--	--	--
BLC (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLC (TN)	232.2	168.9	--	0.7	33.3	85.3	79.1	--	160.6	11.8	1.8	8.9	235.5	--	--	--
WHC (GN)	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--
WHC (TN)	--	--	--	--	--	--	--	193.0	--	--	--	--	--	--	--	--
YEP (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
YEP (TN)	1.0	0.5	--	--	--	0.1	--	--	0.6	0.6	--	1.8	0.8	--	2.0	--
LMB (EF)	--	--	--	--	--	--	--	--	7.0	7.0	--	--	--	282.0	618.0	--
LMB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LMB (TN)	1.2	--	1.3	0.3	0.1	0.2	0.3	0.1	0.3	0.4	--	1.8	0.8	0.1	2.0	0.4
NOP (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NOP (TN)	--	0.1	0.3	0.3	--	--	--	--	--	--	--	--	0.8	--	--	--
CCF (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CCF (TN)	1.2	--	0.3	--	--	--	--	0.1	--	--	--	--	--	--	--	--
WAE (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WAE (TN)	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLG (GN)	--	--	--	--	8.0	--	--	--	--	--	--	--	--	--	--	--
BLG (TN)	277.0	38.2	72.0	88.3	55.3	32.8	5.5	5.5	66.6	47.0	34.1	14.6	64.3	--	1.5	38.9
GSF (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSF (TN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	--
GOS (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GOS (TN)	--	--	--	--	--	--	--	--	--	0.3	--	--	4.9	--	--	--

BLB – Black bullhead, BLC – Black crappie, WHC – White crappie, YEP – Yellow perch, LMB – Largemouth bass, NOP – Northern pike, CCF – Channel catfish, WAE – Walleye, BLG – Bluegill, GSF – Green sunfish, GOS – Golden shiner