



**Fishing access:**

The boat ramp is located on the northwest shore. There is also shore fishing access around the ramp area as well as around the entire shoreline, which may be limited somewhat by vegetation.

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

The dam grade and spillway are in good condition. The gravel area around the boat ramp needs some work as there are large ruts from heavy runoff.

**Field observations of aquatic vegetation condition:**

Jones Lake is completely surrounded with submergent aquatic vegetation of various species to a depth of 4-6 feet, with heavy amounts in the creek arms. The emergent vegetation at Jones Lake is mainly cattails and bulrushes and covers the entire shoreline in the upper 2/3 of the lake.

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

The major pollution concern in Jones Lake is the effects of siltation, which has entered the system during periods of heavy rainfall. Other than that no other problems are evident. Water clarity is fair with a secchi disc reading of 2 ft. Other water quality characteristics were measured in the field on June 27, 2011, using a HACH water quality kit and a Hanna multiparameter 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 Jones Lake, Hand County, June 27, 2011.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO <sub>2</sub> (ppm)	ALK (mg/L)	HRD (mg/L)	pH	Cond. (μS/cm)	TDS (ppm)	Sal.	ORP	Secchi (ft)
A	Surface	67.9	11.22	20.2	80	171	7.69	369	185	0.18	-7.1	2.0
A	--	66.2	10.50	40.6	103	171	7.47	335	167	0.16	-5.5	

**BIOLOGICAL DATA****Methods:**

Jones Lake was sampled on June 27-29, 2011, with ten overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. Two experimental gill nets were set this survey. The gill nets were 150ft x 6ft with 25ft panels of ½, ¾, 1, 1-1/4, 1-1/2, and 2 inch monofilament mesh. On the evening of October 26, 2011, Jones Lake was electrofished for 60 minutes (6-ten minute transects) to sample the largemouth bass population. The boat was set up with 120 pulses per second of DC current at 340 volts with around 7 amps to electrofish the lake that had a conductivity of 580μS/cm with a water temperature of 49.0°F. Fish indices and statistics were completed using Winfin.

## Results and Discussion:

### Trap Net Catch

**Table 2.** Total catch of ten, overnight ¾-inch frame nets at Jones Lake, Hand County, June 27-29, 2011.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Black Bullhead	711	96.3	71.1	± 23.0	195.7	40	3	95
Yellow Perch	13	1.8	1.3	± 0.6	4.4	23	8	107
Black Crappie	10	1.4	1.0	± 0.4	2.7	20	10	123
Golden Shiner	3	0.4	0.3	± 0.4	0.3	--	--	88
Bluegill	1	0.1	0.1	± 0.1	19.8	--	--	129

\* Fifteen year mean (1976, 1982-84, 1986-88, 1990, 1993, 1995, 1998, 2001, 2002, 2006, 2008)

### Gill Net Catch

**Table 3.** Total catch from two, 150ft experimental gill net at Jones Lake, Hand County, June 27-29, 2011.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Black Bullhead	36	97.3	13.0	± 40.0	76.5	69	6	104
Yellow Perch	1	2.7	0.5	± 1.5	14.1	--	--	117

\* Four year mean (1976, 1982, 2006, 2008)

### Electrofishing Catch

**Table 4.** Total catch from six ten-minute runs of fall nighttime electrofishing at Jones Lake, Hand County, October 26, 2011.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Largemouth Bass	47	100	47.0	± 23.5	203.3	82	0	126

\* Two year mean (2002, 2008)

### Largemouth Bass

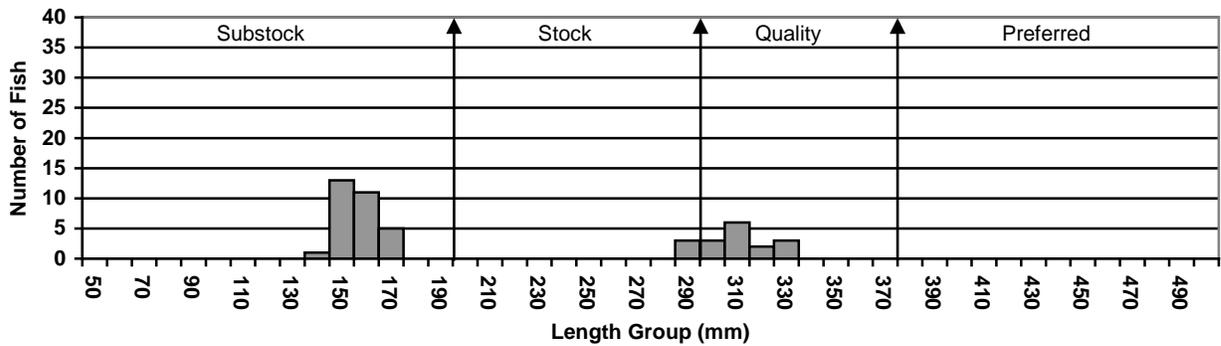
The largemouth bass population was making a positive progress till the lake suffered a partial winterkill. The electrofishing CPUE was 47 fish per hour, which is well below the 261 from the 2008 survey (Table 9) as well as the 203.3 two year mean (Table 4). Figures 1 and 2 illustrate the length frequency histograms for the past two surveys. A reduced number can be seen as well as a reduced size structure with mainly two year classes present. The two year classes can also be seen in Table 5 with most of the fish sampled either age 0 or 1. Growth is slow on the older fish with the young fish seeming to be faster at this point (Table 5). Condition is good with a mean Wr of 126. This population will have to be further monitored and stockings made if they don't rebound on their own as they are the main predator species.

**Table 5.** Average back calculated lengths (mm) for each age class of largemouth bass sampled from Jones Lake, Hand County, 2011.

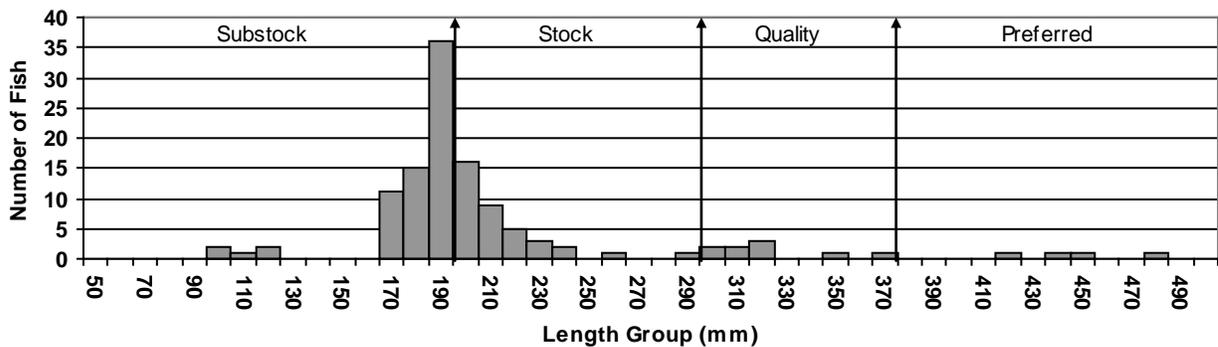
Year Class	Age	N	Back-calculated Age				
			1	2	3	4	5
2011	0	30					
2010	1	14	114				
2009	2	2	68	189			
2006	5	1	66	145	180	206	238
<b>All Classes</b>		<b>47</b>	<b>83</b>	<b>167</b>	<b>180</b>	<b>206</b>	<b>238</b>
Statewide Mean			96	182	250	305	342
Region II Mean			105	183	246	296	328
SLI* Mean			99	183	246	299	332

\* Small Lakes and Impoundments

**Figure 1.** Length frequency histogram for largemouth bass sampled from Jones Lake, Hand County, 2011.



**Figure 2.** Length frequency histogram for largemouth bass sampled from Jones Lake, Hand County, 2008.



## Black Crappie

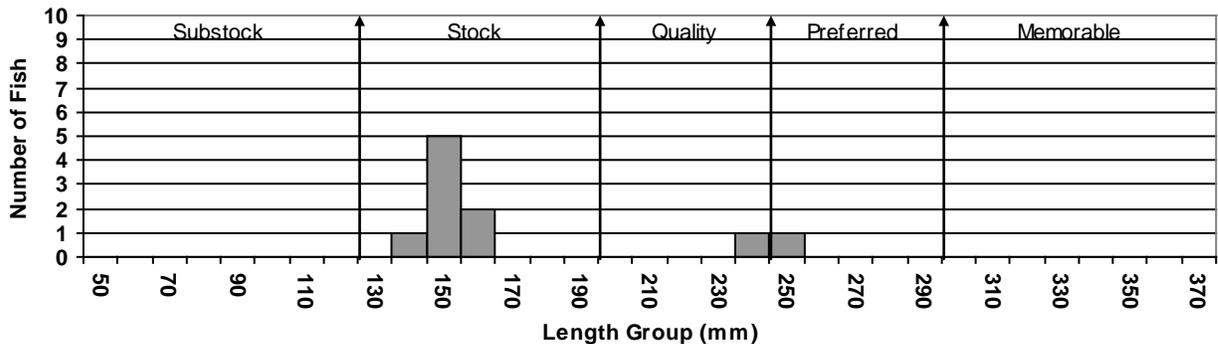
Jones Lake continues to contain a small black crappie population. The current trap net CPUE of 1.0 is up slightly from the 0.7 from the 2008 survey (Table 9) but is still below the 2.7 fifteen year mean (Table 2). Growth is good with means right on with statewide, regional and SLI means (Table 6). Condition is good with a mean Wr of 123. Figures 3 and 4 illustrate the length frequency histograms from the past two surveys with not a whole lot of change to talk about.

**Table 6.** Average back calculated lengths (mm) for each age class of black crappie sampled from Jones Lake, Hand County, 2011.

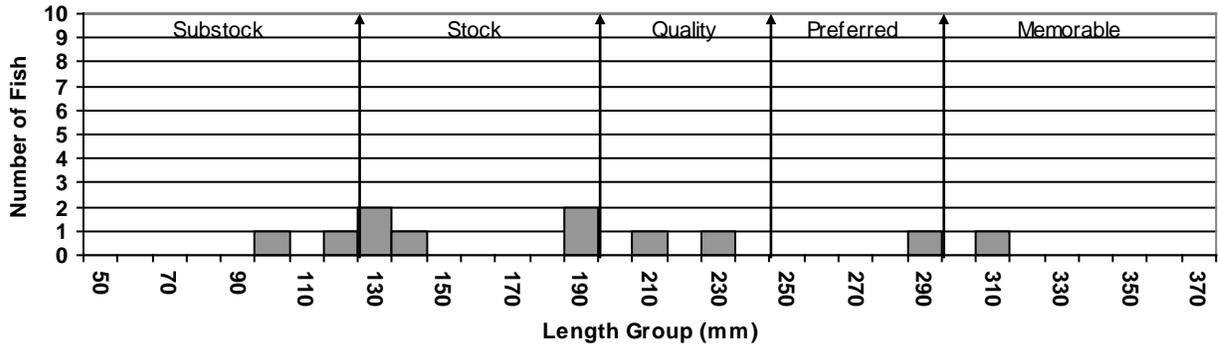
Year Class	Age	N	Back-calculated Age		
			1	2	3
2009	2	8	64	124	
2008	3	2	76	165	238
<b>All Classes</b>		<b>10</b>	<b>70</b>	<b>145</b>	<b>238</b>
Statewide Mean			83	147	195
Region II Mean			75	132	177
SLI* Mean			78	134	180

\* Small Lakes and Impoundments

**Figure 3.** Length frequency histogram for black crappie sampled from Jones Lake, Hand County, 2011.



**Figure 4.** Length frequency histogram for black crappie sampled from Jones Lake, Hand County, 2008.



**Yellow Perch**

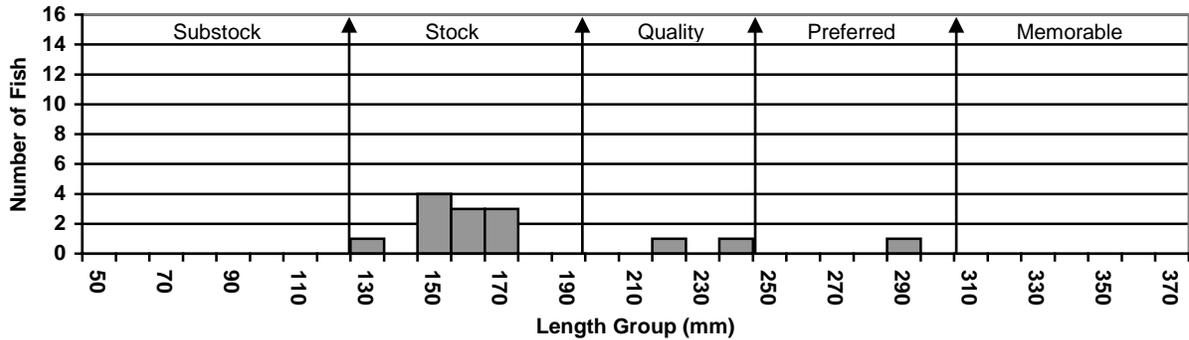
The yellow perch population appears to have also suffered slightly from the partial winterkill. The trap net CPUE of 1.3 is about the same as the 1.6 from the 2008 survey. The gill net CPUE of 0.5 is well below the 16.5 from the 2008 survey. Gill nets are generally the gear of choice for this time of year to get an accurate sampling. Figures 5 and 6 illustrate the length frequency histograms for the past two surveys with not a lot of difference between the two other than a smaller number of stock sized fish this survey. Growth is good with means right on with statewide, regional and SLI means (Table 7). Condition is also good with a mean Wr of 112.

**Table 7.** Average back calculated lengths (mm) for each age class of yellow perch sampled from Jones Lake, Hand County, 2011.

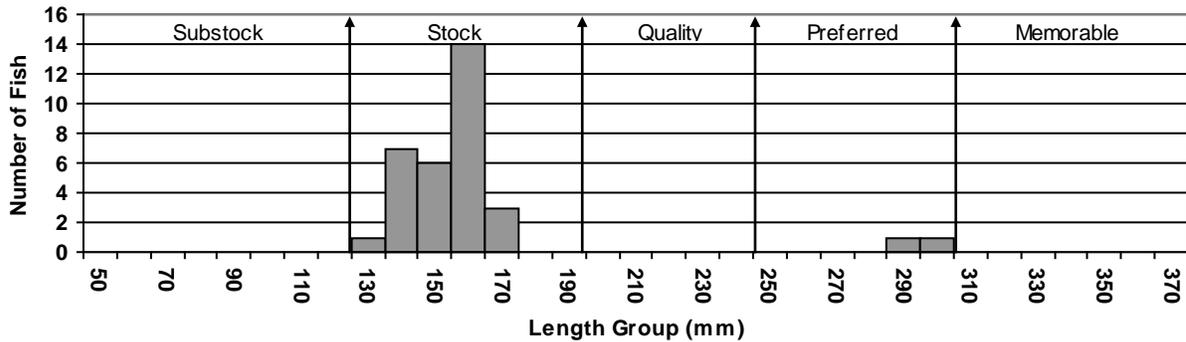
Year Class	Age	N	Back-calculated Age				
			1	2	3	4	5
2010	1	2	117				
2009	2	9	102	145			
2007	4	2	95	151	199	223	
2006	5	1	138	195	214	254	266
<b>All Classes</b>		<b>14</b>	<b>113</b>	<b>164</b>	<b>207</b>	<b>238</b>	<b>266</b>
Statewide Mean			86	145	190	220	242
Region II Mean			91	152	196	219	242
SLI* Mean			87	142	185	205	219

\* Small Lakes and Impoundments

**Figure 5.** Length frequency histogram for yellow perch sampled from Jones Lake, Hand County, 2011.



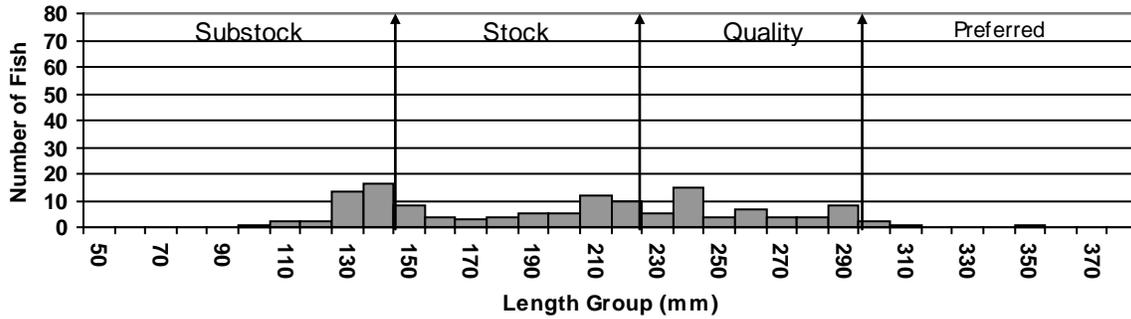
**Figure 6.** Length frequency histogram for yellow perch sampled from Jones Lake, Hand County, 2008.



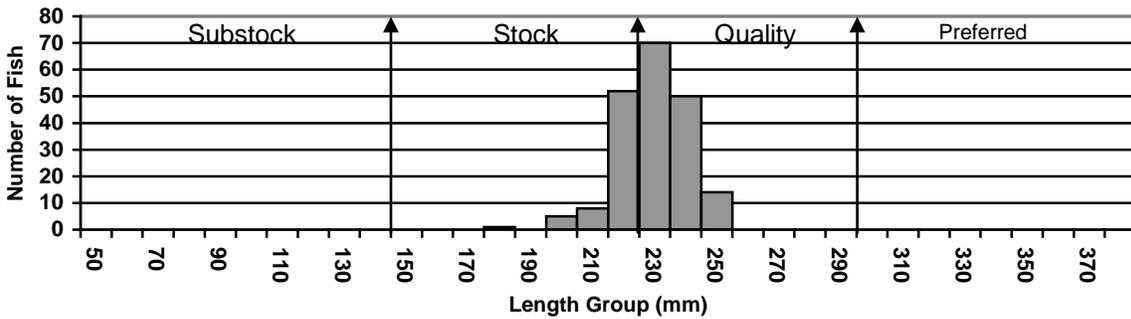
### **Black Bullhead**

Black bullheads continue to be by far the most abundant species present in Jones Lake. The trap net CPUE of 71.1 is actually lower than the 104.7 from the 2008 survey (Table 9) as well as the 195.7 fifteen year mean (Table 2). The gill net CPUE of 13.0 is also below the 90 from the 2008 survey (Table 9) as well as the 76.5 four year mean (Table 3). Condition is good with a mean  $W_r$  of 100. Figures 7 through 12 illustrate the changes in the length frequency histograms for the past six surveys. The biggest change in this year's histogram is the lack of any large peaks with a broader range of sizes. This could mean that bullheads will continue to dominate for several years unless the largemouth bass and black crappie populations get going to work on them. The high density black bullhead population will restrict the population potentials of all the other species present in Jones Lake.

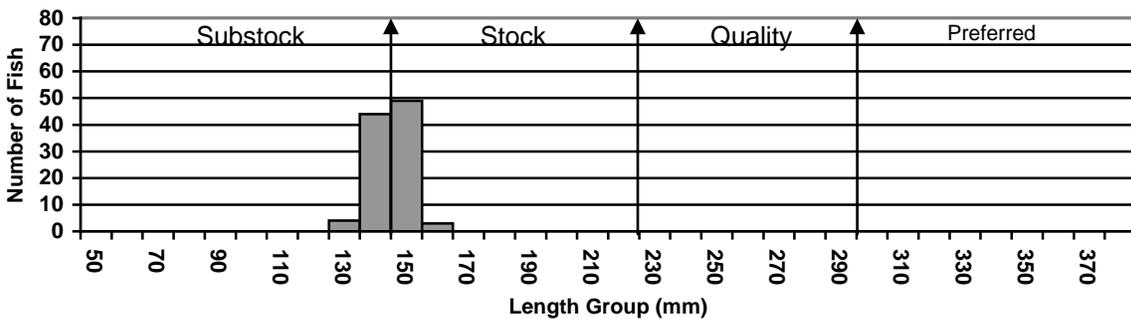
**Figure 7.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 2011.



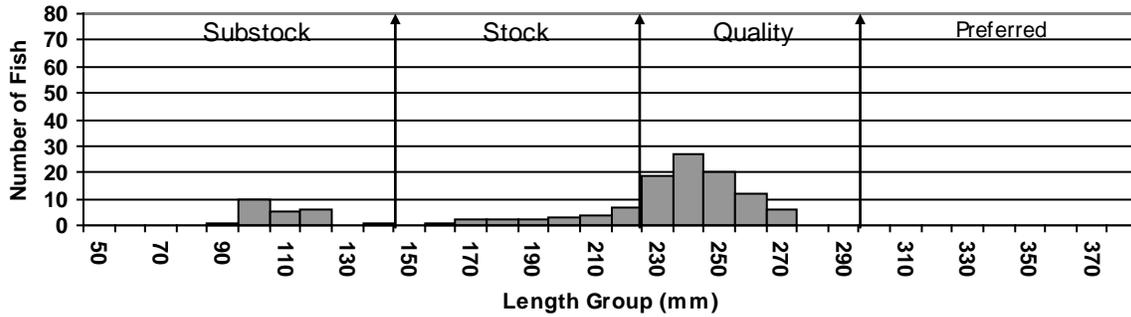
**Figure 8.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 2008.



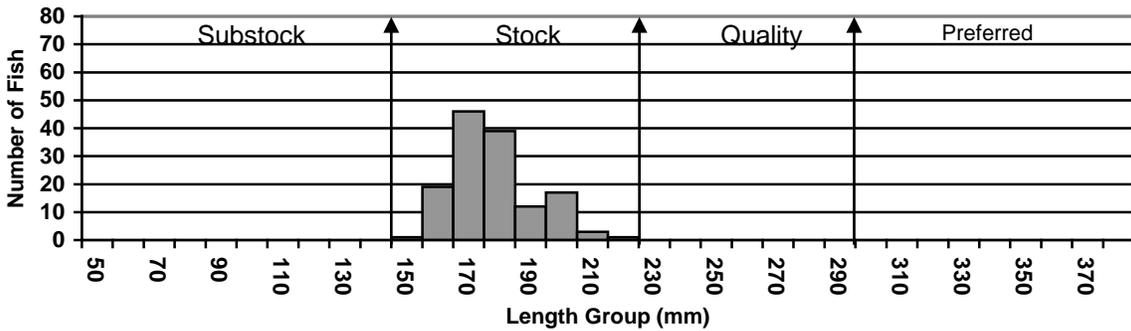
**Figure 9.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 2006.



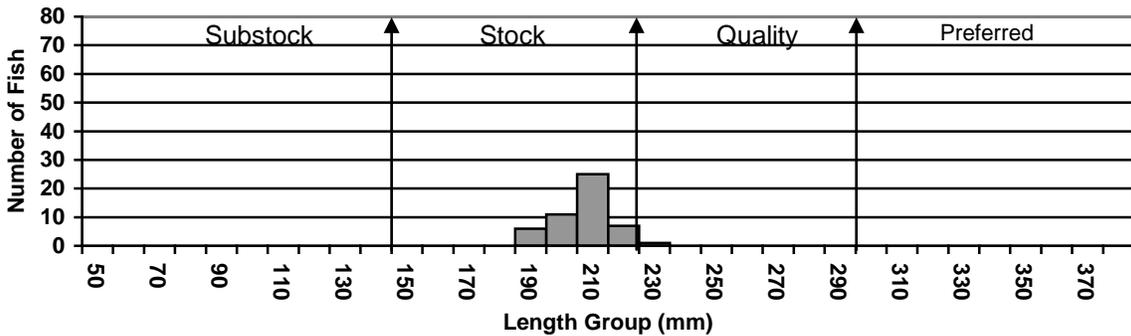
**Figure 10.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 2002.



**Figure 11.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 2001.



**Figure 12.** Length frequency histogram for black bullheads sampled from Jones Lake, Hand County, 1998.



## **Other Species**

Golden shiner and bluegill were the only other species sampled this survey with neither having enough to make any inferences about their populations. Northern pike, walleye, and green sunfish were the species not present that have been in past surveys (Table 9).

**Table 8.** Stocking records from 2001 (winterkill year) to present for Jones Lake, Hand County.

Year	Number	Species	Size
2001	103	Largemouth Bass	Adult
2001	2500	Walleye	Fingerling
2001	8400	Largemouth Bass	Fingerling
2001	100	Largemouth Bass	Adult
2001	900	Yellow Perch	Adult
2006	8,580	Largemouth Bass	Fingerling

## **RECOMMENDATIONS**

1. Resurvey in 2014 to further monitor the fish populations that are rebuilding.
2. Stock largemouth bass, walleye and yellow perch to reestablish populations as stated in the current management plan.

**Table 9.** Gill net (GN), trap net (TN) and electrofishing (EF) CPUE for all fish species sampled in Jones Lake, Hand County since survey records started in 1976.

Species	1976	1982	1983	1984	1986	1987	1988	1990	1993	1995	1998	2001	2002	2006	2008	2011
BLB (GN)	11.0	173.0	--	--	--	--	--	--	--	--	--	--	--	32.0	90.0	13.0
BLB (TN)	7.8	144.0	493.8	396.3	182.5	91.5	218.1	51.1	143.1	322.0	304.0	36.1	42.2	398.7	104.7	71.1
BLC (GN)	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--
BLC (TN)	6.0	0.2	0.1	0.5	5.1	1.6	6.8	0.3	--	2.0	10.3	0.1	5.0	1.8	0.7	1.0
YEP (GN)	40.0	--	--	--	--	--	--	--	--	--	--	--	--	--	16.5	0.5
YEP (TN)	2.3	0.7	1.4	3.0	7.3	6.3	9.3	3.9	6.6	1.0	15.8	1.6	5.1	--	1.6	1.3
LMB (EF)	--	--	--	--	--	--	--	--	--	--	--	--	145.5	--	261.0	47.0
LMB (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--
LMB (TN)	1.0	--	--	0.5	--	--	0.8	--	0.3	0.1	--	--	0.4	--	0.2	--
NOP (GN)	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NOP (TN)	1.2	0.5	0.2	0.9	0.6	0.8	1.3	--	0.1	0.4	2.0	--	--	0.1	--	--
WAE (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WAE (TN)	--	0.1	--	0.03	--	0.04	0.08	0.1	--	--	0.9	--	--	--	--	--
BLG (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLG (TN)	67.3	1.1	0.1	3.5	21.8	35.0	117.4	20.6	22.3	6.3	2.0	--	--	--	--	0.1
GSF (GN)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSF (TN)	--	--	--	--	--	--	--	--	--	--	--	0.1	--	--	--	--
GOS (GN)	3.0	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--
GOS (TN)	0.3	--	--	--	0.03	0.3	0.2	--	--	--	--	0.6	0.2	--	2.5	0.3

BLB-Black Bullhead, BLC-Black Crappie, YEP-Yellow Perch, LMB-Largemouth Bass, NOP-Northern Pike, WAE-Walleye, BLG-Bluegill, GSF-Green Sunfish, OSF-Orangespotted Sunfish, GOS-Golden Shiner