

DATE: November 5, 2009 FILE REF: [Click [here](#) and type file ref.]

TO: East Alaska Lake File

FROM: Steve Hogler

SUBJECT: East Alaska Lake, Kewaunee County-May 2009 Electrofishing Survey Report

East Alaska Lake is a 53 acre seepage/drainage lake located southwest of Algoma. On the night of May 19, 2009 it was electroshocked as part of Tier II baseline lakes monitoring. A single circuit of the lake was shocked at 150 volts pulsed DC current and 4 amps of current. Total electrofishing time was 57 minutes to cover the 1.53 miles of shoreline. All fish were netted, identified and either measured to the nearest millimeter or counted. All captured largemouth bass and subsample of bluegill had scales removed for aging.

In total, 348 individual fish representing eight species of fish were captured with a total CPE of 227.5 fish per mile or 365.4 fish hour shocked (Table 1). Bluegill dominated the catch followed by largemouth bass and yellow perch. Other captured species were netted in much lower numbers.

Table 1. The abundance and CPE of fish captured by electroshocking on East Alaska lake during May, 2009.

Species	Number	Fish/Mile	Fish/Hour
Largemouth Bass	83	54.2	87.2
Pumpkinseed	11	7.2	11.6
Bluegill	161	105.2	169.1
Black Crappie	16	10.5	16.8
Yellow Perch	49	32.0	51.5
Muskellunge	8	5.2	8.4
Common Carp	19	12.4	20.0
White Sucker	1	0.7	1.1
Total	348	227.5	365.4

Largemouth Bass

A total of 83 largemouth bass were captured during the survey (Table 1). Bass CPE was 87.4 fish per hour or 54.2 per mile of shoreline shocked. The bass ranged in length from 155 mm to 360 mm and averaged 244 mm in length (Table 2). Only a single bass (1.2%) was greater than the size limit (356 mm or 14") although many were greater than 260 mm (10"). When compared to State averages for length at age, bass in East Alaska Lake appear to be growing at or near State averages (Table 3).

From the scale samples, four age classes of bass were noted, with age 3 bass the most common age class (Table 4). Very few bass were greater than age 4 and no yearling bass were captured.

Table 2. The length frequency of fish captured by electroshocking on East Alaska Lake on the night of May 19, 2009.

Length (mm)	Largemouth Bass	Pumpkinseed Sunfish	Bluegill	Black Crappie	Yellow Perch
50					
60			1		
70			3		
80		2	3		
90		2	5		
100			9		1
110		3	21		3
120		4	23		4
130			41	6	5
140			29		3
150	2		20		6
160	7		3		9
170	9		3	1	4
180	3			2	7
190				3	3
200	3			2	1
210	2			1	1
220	2				
230	5				
240	6			1	1
250	7				
260	6				1
270	10				
280	4				
290	8				
300	3				
310	3				
320					
330	1				
340					
350	1				
360	1				
Number	83	11	161	16	49
Ave. Length	244	100	131	174	161
S.D.	52	32.6	19.9	36.5	31.9

Table 3. Average length (mm) at age as determined by scales for fish captured on East Alaska Lake from surveys conducted in 2004 and 2009 and compared with statewide length at age information.

Species	AGE 1	AGE 2	AGE 3	AGE 4	AGE 5	AGE 6
Bluegill (2004)	67	117	168	175	--	--
(2009)	72	116	139	163	--	--
(State Average)	(64)	(97)	(122)	(147)	(167)	(183)
Largemouth Bass (2004)	88	142	229	283	338	420
(2009)	--	166	247	286	332	--
(State Average)	(97)	(165)	(229)	(290)	(338)	(384)

Table 4. The age and length distribution of largemouth bass that were captured on East Alaska Lake during May electroshocking.

Length (mm)	Age						
	1	2	3	4	5	6	7
150		2					
160		7					
170		9					
180		3					
190							
200			3				
210			2				
220			2				
230			5				
240			6				
250			7				
260			5	1			
270			6	4			
280			3	1			
290			2	6			
300				3			
310				1	2		
320							
330					1		
340							
350					1		
360					1		
Number		21	41	16	5		
Ave. Length		166	247	286	332		
S.D.		8.6	24.3	14.1	22.8		

Muskellunge

During the survey, eight musky were netted but only two were landed and measured. Others were netted but not landed and measured. The measured musky were 727 mm and 965 mm in length.

Bluegill

A total of 161 bluegill were captured during the survey. Bluegill ranged in length from 64 mm to 177 mm and had an average length of 131 mm (Tables 1 and 2). CPE for bluegill was 169.1 per hour or 105.2 per mile shocked (Table 1). Most bluegill were less than 152 mm in length with only 13.1% greater than 152 mm (6") and none were greater than 180 mm (7.1") in length (Table 2). When compared to State average for length at age, bluegill in East Alaska Lake are growing at the State average rate (Table 3).

From the scale samples, four age classes of bluegill were captured with age 2 and age 3 the dominant age classes (Table 5). Few bluegill younger (age 1) or older bluegill (age 4 and older) were captured.

Table 5. The age and length distribution of bluegill that were captured on East Alaska Lake during May electroshocking.

Length (mm)	Age					
	1	2	3	4	5	6
50						
60	1					
70	3					
80	2	1				
90		5				
100		9				
110		21				
120		23				
130		13	28			
140		7	22			
150			19	1		
160				3		
170				3		
180						
190						
200						
Number	6	79	69	7		
Ave. Length	72	116	139	163		
S.D.	7.5	13.7	8.2	7.6		

Other Panfish

A total of 49 yellow perch were captured during the survey. They ranged in length from 100 mm to 260 mm and had an average length of 173 mm (Table 5). CPE for perch was 51.5 per hour or 32.0 per mile shocked. Few large perch greater than 200 mm (8.2%) were captured with most fish between 125 and 175 mm in length.

Sixteen black crappie were captured during the survey (Table 1). They ranged in length from 130 mm to 243 mm and had an average length of 174 mm (Table 2). It was noted that these fish appeared to be thin for their size.

A total of eleven pumpkinseed were captured during the survey (Table 1). They ranged in length from 80 mm to 125 mm in length and had an average length of 100 mm (Table 2).

Other Species

In addition to the fish mentioned, we captured 19 carp and one white sucker during our circuit of the lake. Other carp were seen but we were not able to net these fish.

SUMMARY

From this limited late spring survey it appears that largemouth bass, bluegill and yellow perch are doing well in the lake. We did however note a lack of yearling bass in our sample which could indicate a poor 2008 year class or that yearling bass were not onshore when we were shocking. Past surveys, usually conducted in fall, generally noted yearling (and young of year) bass so the complete lack of yearling bass noted in 2009 is unusual for the lake. Future surveys should continue to take age samples to determine the strength of succeeding year classes. Length at age in 2009 was slightly better than noted in 2004 and is at or slightly above state averages. Since bass are growing at or near state averages, angler harvest or past disease outbreaks appear to have negatively influenced the size distribution of bass in this lake since we collected few bass that were greater than the size limit (356 mm or 14").

The stocked muskellunge in the lake appear to be doing well. Anecdotal evidence from anglers indicate that the musky survive well, grow fast and reach legal size (864 mm-34") before being harvested. Our observations also suggest that musky are doing well in the lake.

Bluegill appear to be doing well although few large (older) bluegill were captured. It is likely that angler harvest has selectively reduced larger bluegill abundance since bluegill appear to grow at the state average rate. The low number of small (young) bluegill could be due to predation by gamefish or from past disease outbreaks that reduced adult populations and ultimately the number of fish produced through spawning.

Yellow perch and black crappie appear to have variable recruitment with few young fish captured during this survey. Similar to bluegills angler harvest may be cropping off larger fish while younger fish are being removed by predators.

Carp appear to be abundant in the lake. It is not clear what their impact on the lake is although since East Alaska Lake has abundant nutrients and aquatic plants they could become more abundant in the future. Future surveys should continue to monitor their population.