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TO: Mike Donofrio
Krohns Lake File

FROM: Steve Hogler
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SUBJECT: 2013 Krohns Lake Electroshocking Survey Report

Krohns Lake is located three miles southwest of Algoma. The lake is 21 acres in size and has a maximum depth of 38 feet. Krohns Lake has been managed as a two-story lake with a bass-bluegill warm water fishery and annual trout stocking for many decades. The shoreline is lightly developed with large stretches of natural shoreline and wetlands (Figure 1).



Figure 1. A photograph of Krohns Lake taken on May 21, 2013 showing the natural shoreline of the lake.

Since the 1950's when public access to the lake was obtained, fish surveys have been conducted on an irregular basis. Surveys from the 1950's through the 1980's found abundant largemouth bass and bluegill; although they were generally small in size. Rock bass, yellow perch and sunfish were also commonly captured. Additionally, most surveys also mentioned that numerous small bluegill were observed along the shoreline, but not netted.

On the night of May 21, 2013 the entire 0.87 mile shoreline of Krohns Lake was electroshocked with a standard DNR boomshocker and two dip netters. During the 43 minutes of shocking, we captured 46 individual fish representing seven species (Table 1). Total catch per effort (CPE) was 64.2 fish per hour or 52.9 fish per mile shocked. Largemouth bass dominated our catch with lower numbers of other species captured.

Table 1. Catch and CPE of fish captured during May electroshocking on Krohns Lake.

Species	Number	CPE (Fish per Hour)	CPE (Fish per Mile)
Rainbow Trout	1	1.4	1.1
Rock Bass	1	1.4	1.1
Green Sunfish	1	1.4	1.1
Bluegill	4	5.6	4.6
Largemouth Bass	36	50.2	41.4
Black Crappie	2	2.8	2.3
Yellow Perch	1	1.4	1.1
Total	46	64.2	52.9

The 36 largemouth bass that we captured ranged in length from 109 mm (4.3”) to 480 mm (18.9”) and had an average length of 253 mm (9.9”) (Table 2). Only 2 (5.6%) of the captured bass were greater than the 356 mm (14”) size minimum for bass in Krohns Lake. Most bass were between 180 mm (7”) and 320 mm (12.5”) which was similar to results from past surveys. Ages for bass were estimated by reading scales that were collected during sampling. In our sample, age 2 through age 8 and age 11 were identified (Table 3). Most bass were age 3 to age 6, with age 3 the most common age. Since we collected a limited number of scales, comparisons between Krohns Lake and statewide average growth should be viewed cautiously. The growth of bass at early ages 1 through 4 in Krohns Lake appear to be near to state average growth rates, while older bass grow more slowly.

The catch of panfish during this survey was substantially lower than panfish catches of past surveys. The reasons for the low catch are not clear and could be a result of several factors including 1) poor catchability due to poor performance of the shock boat, 2) lake conditions because of abundant algae netting was difficult or 3) because of actual declines in panfish number. Similar to past surveys, the size of panfish appeared to be small.

During our circuit of the lake, we noted many more trout than were netted because we were targeting warm water species. Most were the same general size of the one that was captured and measured (Table 2).

It is recommended that (1) Krohns Lake be monitored on a regular basis to track the panfish populations of the lake and (2) that the trout stocking program be continued.

Table 2. The length frequency of fish by species captured from Krohns Lake during May electroshocking.

Length (mm)	Rainbow Trout	Green Sunfish	Rock Bass	Largemouth Bass	Bluegill	Black Crappie	Yellow Perch
50							
60							
70							
80							
90					1		
100				1			
110					2		
120							
130							
140		1					
150							
160				2			
170							
180				1			
190				1			1
200				3			
210	1			2			
220			1	1	1	1	
230				4		1	
240				1			
250				6			
260				4			
270				2			
280				2			
290				1			
300				1			
310				1			
320				1			
330							
340							
350							
360							
370							
380							
390							
400							
410				1			
420							
430							
440							
450							
460							
470							
480				1			
490							
500							
Total	1	1	1	36	4	2	1
Average Length	210	142	225	253	135	228	191
S.D.	--	--	--	65.2	57.7	7.8	--

Table 3. The age distribution of largemouth bass in Krohns Lake captured during May electroshocking. Age was determined by the use of scales.

Length (mm)	Number	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	Age 10	Age 11
50												
60												
70												
80												
90												
100	1		1									
110												
120												
130												
140												
150												
160	2		2									
170												
180	1			1								
190	1		1									
200	3			3								
210	2			2								
220	1				1							
230	4			2	2							
240	1				1							
250	6			2	1	3						
260	4					2	2					
270	2				2							
280	2						2					
290	1						1					
300	1								1			
310	1						1					
320	1							1				
330												
340												
350												
360												
370												
380												
390												
400												
410	1											1
420												
430												
440												
450												
460												
470												
480	1											1
490												
500												
Number	36		4	10	7	5	6	1	1			2
Average Length	253		158	221	249	258	284	322	300			445
S.D.	65.2		36.6	23.1	20.4	2.1	17.3					49.5