

Largemouth Bass Sampled in Rice Lake, October, 2024

# Fish Survey of Rice Lake (ID #27-0116), Hennepin County, Minnesota in 2024

Survey Dates: October 18-19, 2024

**MnDNR Permit Number: 36443** 

Submitted to: Rice Lake Area Association and the City of Maple Grove



Prepared by: Steve McComas Jo Stuckert Blue Water Science St. Paul, MN 55116

**November 22, 2024** 

# Fish Survey of Rice Lake (ID #27-0116), Hennepin County, Minnesota in 2024

#### **Summary**

Rice Lake is a 333 acre lake located in Hennepin County, Minnesota.

On October 18-19, 2024, a fish survey using standard trapnets was conducted for Rice Lake. The objective of the fish survey was to fulfill a Minnesota Department of Natural Resources requirement to conduct a fish survey following a lake drawdown. Added benefits to a fish survey would allow the characterization of the existing fish conditions and to determine if fish densities were high enough to be contributing to the observed poor water quality in Rice Lake.

Results of the 2024 fish survey are shown in Table 1. The fish catch was dominated by 6 to 7 inch black bullheads. Carp were common, but the biggest surprise was a dramatic decline in crappies from 2023 to 2024. A total of eleven fish species were observed in 2024.

Table 1. Rice Lake trapnet results for fish surveys conducted in 2008, 2014, 2022 through 2024 by Blue Water Science and in 1979, 1985, 1994 by the MnDNR. Fish data are shown as fish/trapnet. YOY = young of the year.

	1979 July 12 (5 nets) (MnDNR)	1985 July 9 (8 nets) (MnDNR)	1994 July 11 (9 nets) (MnDNR)	2008 Aug 19-21 (12 nets) (BWS)	2014 July 17-18 (12 nets) (BWS)	2022 Sept 7-8 (12 nets) (BWS)	2023 Sept 19 (6 nets) (BWS)	2024 Oct 19 (6 nets) (BWS)	DNR Range
Bullhead - Black	99	116	1.7	177	7.6	49	79	225	0.7 - 26
Bullhead - Brown			0.1						1.4 - 6.6
Bullhead - Yellow	0.4	2.8	0.4	0.9	1.0	5.3	4.8	4.3	0.8 - 6.2
Carp		2.1	0.3	3.8	0.3	125	12	7.5	1.0 - 3.6
Crappie - Black	1.4	17	35	46	2.8	58	522	5.5	1.8 - 21
Crappie - White			0.4						2.5 - 11.6
Dogfish (Bowfin)		0.3	1.1	0.2			0.8	0.2	0.5 - 1.7
Golden Shiner				1.8	16	0.1	0.2		NA
Largemouth Bass		0.1	0.4	1.8	0.5	3.8	0.2	0.7	0.3 - 1.2
Northern Pike	0.4	3.1	0.3	0.1	1.3	0.5	1.3	0.8	NA
Sunfish - Bluegill	2.6	42	40	37	62	7.8	13	18	7.5 - 63
Sunfish - Green		0.4	0.6		0.1			0.2	0.2 - 2.0
Sunfish - Hybrid		9.3	1.9			0.5			NA
Sunfish - Orangespot			0.1						NA
Sunfish - Pumpkinseed		2.1	10	1.0	0.1	0.1	0.5		0.8 - 8.4
Tadpole madtom (small bullhead)	0.2								NA
Walleye						0.1			NA
White Sucker		2	0.2	6.5	0.1	0.2	2.5	2.3	0.3 - 2.2
Yellow Perch	3.6	21	8.9	4.2	0.7	8.1	9.5	8.0	0.5 - 3.4
Bullhead - Black YOY				16	654	94			NA
Carp YOY					405	4.2			NA
Crappie - Black YOY					1.3	206	1.7		NA
Largemouth bass YOY						0.6			NA
Sunfish - Bluegill YOY					2.7		1.0	1.0	NA
Yellow perch YOY						0.4			NA

#### Fish Survey Summaries from 2008-2024

Objectives of this fish survey were to evaluate the effects of previous winterkills and to evaluate the fish community structure after a winter drawdown. Listed below are observations from previous fish surveys from 2008 through 2024.

- 2008: The 2008 fish survey found elevated numbers of adult bullheads and carp and poor water quality (Table 1 and Figure 1). Few adult predator fish such as bass, northern pike, or walleyes were found in 2008.
- 2014: In the 2014 fish survey, adult bullheads and carp catch rates were lower compared to the 2008 fish survey (Table 1). Water quality was better in 2014 compared to 2008. The winterkill over the 2013-2014 winter likely reduced the adult population of bullheads and carp. However, young of the year carp and bullheads were abundant in 2014.
- 2022: The 2022 fish survey was conducted after a significant winter fishkill over the 2021-2022 winter. Small 6 to 8 inch carp were abundant but so were young-of-the-year black crappies. Also, there was an above average adult largemouth bass population. The 2021-2022 fishkill was likely a partial fishkill. Some fish survived and some fish, like carp, migrated into Rice Lake during the summer.
- 2023: The fish survey in 2023 was dominated by black crappies at an astounding 522 fish/net (Table 1). Carp numbers were above the MnDNR range for a shallow lake like Rice, but were down from the carp density of 2022. Young of the year fish numbers were low. It's possible that predation from the high density crappie population kept the numbers of small fish very low (Table 1).
- 2024: The fish survey in 2024 was dominated by black bullheads at 225 fish/net (Table 1). Carp numbers were above the MnDNR range for a shallow lake like Rice, but were down from the carp density of 2022 and 2023. Young of the year bluegills were rare. There was a dramatic decline in crappie numbers from 2023 to 2024. The cause of the decline could be from winterkill, or from emigration of crappies out of Rice Lake, but could also be from a super catch in 2023 where schooling crappies piled into the nets and then weather conditions in 2024 may have kept crappies off-shore and they were not captured in the trapnets.

Because of the possible recruitment of bullheads and carp from Elm Creek, the chances of a long-term "balanced" fish community remain a challenge. The best long term strategy is to lower phosphorus concentrations in Elm Creek which would reduce phosphorus loading to Rice Lake and improve water quality. After water quality is improved, then fish stocking would be more effective and possibly sustaining.

#### **Rice Lake Water Quality**

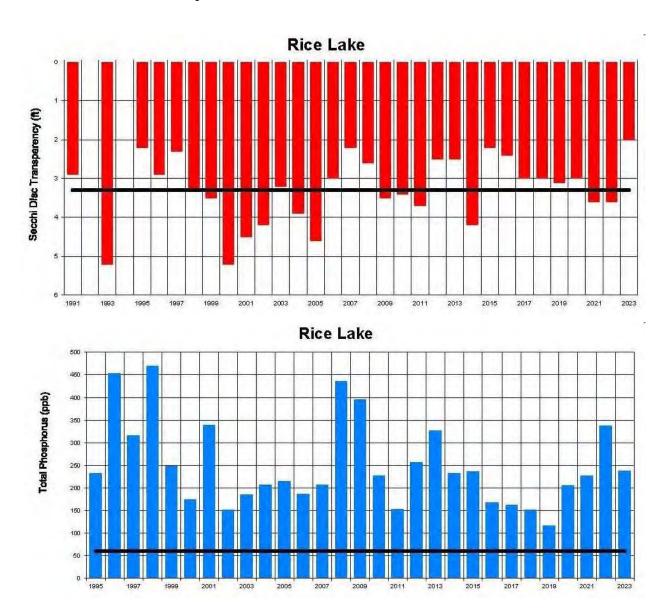


Figure 1. Seasonal averages (May - September) for Secchi disc transparency (top) and total phosphorus (bottom). Recent fish surveys have been conducted in 2008, 2014, 2022, 2023, and 2024. The black line indicates the threshold for impaired or unimpaired water quality. For Secchi disc transparency, values greater than 3.3 feet are unimpaired. For phosphorus, concentrations less than 60 ppb are unimpaired.

# Fish Survey of Rice Lake (ID #27-0116), Hennepin County, Minnesota in 2024

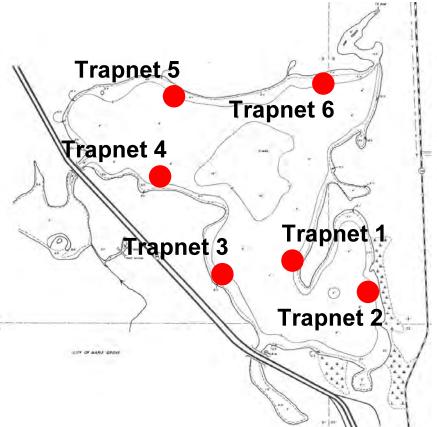
#### Introduction

Rice Lake is a 333-acre lake, located in Hennepin County, Minnesota.

In October of 2024, the Rice Lake Area Association contracted for a fish survey with Blue Water Science with a permit granted from the MnDNR. The objective of the fish survey was to fulfill a Minnesota Department of Natural Resources requirement to conduct a fish survey following a lake drawdown. Added benefits to a fish survey would allow the characterization of the existing fish conditions and to determine if fish densities were high enough to be contributing to the observed poor water quality in Rice Lake.

#### **Methods**

Six trapnets were used for a single night to survey fish in Rice Lake. Four MnDNR-style trapnets with a 3 x 5 feet square frame with five hoops, two funnel mouth openings and a 50-feet lead. Net mesh size was 3/8 inch (bar length). Also, two MnDNR-style trapnets with a 4 x 6 feet square frame with five hoops, two funnel mouth openings and a 50-feet lead. Net mesh size was



½ inch (bar length). The trapnets were set on Friday morning October 18, 2024. The nets were fished for the following day and removed (October 19). Trapnet locations are shown in Figure 2 and pictures of a typical trapnet are shown in Figure 3.

Figure 2. Map of standard trapnet sets (red) for 2024.

## **Trapnetting Method**



Figure 3. [top] A trapnet is a live fish trap. Fish run into the 50-foot lead net and follow it back through a series of hoops with funnel mouths. Fish end up in the back hoop.
[middle] A handheld net is used to remove the fish from the back of the trapnet.
[bottom] Fish are transferred to tubs, then they are counted, measured, and released.

#### **Results**

**Standard Trapnets:** A total of 11 fish species were sampled in Rice Lake on October 19, 2024. The fish catch was dominated by high densities of black bullheads (Table 2). Nets 1 and 6 captured the most bullheads. Young-of-the-year (YOY) were few in number and no YOY crappies were sampled.

Adult fish dominated and bullheads and bluegills were most abundant species caught (Tables 2 and 3).

Table 2. Total fish sampled for the Rice Lake fish survey conducted on October 19, 2024.

October 2024								
	Net 1	Net 2	Net 3	Net 4	Net 5	Net 6	Total	Fish/net
Black bullhead								
Adults	501	4	2	3	30	809	1349	225
Bluegill sunfish								
YOY (less than 3 in)					6		6	1.0
Adults	55	16	9	6	3	17	106	18
Black crappie								
Adults	15	5	2	8	1	2	33	5.5
Carp								
Adults	8	9	3	17		8	45	7.5
Largemouth bass								
Adults	3			1			4	0.7
Northern pike								
Adults	2	2				1	5	0.8
Yellow perch								
Adults	2		1		1	1	5	0.8
Dogfish					1		1	0.2
Green sunfish			1				1	0.2
White sucker	2	11				1	14	2.3
Yellow bullhead	12	3	6	2	1	2	26	4.3
Total fish caught	600	50	24	37	43	841	1,595	266

**Fish Size Distribution:** Length frequencies for Rice Lake fish species surveyed in 2024 are shown in Table 3. The fish length distribution indicates for most fish species there are several year classes present.

Table 3. Length frequency of measured fish species (as total length) for the Rice Lake fish survey from the standard trapnets for 2024. Gray shading indicates young-of-the-year fish and are not included in statistics.

Length (inches)	Black bullhead	Black crappie	Bluegill	Carp	Dogfish	Green sunfish	Largemouth Bass	Northern pike	White sucker	Yellow bullhead	Yellow perch
<3			6								
3											
3.5											
4			1								
4.5			11			1					
5			24							1	
5.5			41							1	2
6	21	2	16							2	2
6.5	40	3	8							10	
7	28	10	4							1	1
7.5	1	1								1	
8		3								3	
8.5		1	1				1			2	
9											
9.5		3								1	
10		8					1				
10.5		2			1						
11		-									
11.5										1	
12										2	
12.5											
13										1	
13.5										l l	
					4						
14					1		4				
14.5							1				
15							1		1		
15.5											
16									1		
16.5											
17				2					3		
17.5				1							
18				6					2		
18.5				1							
19				10					3		
19.5											
20				12					4		
20.5				3							·
21				6							
21.5				1							
22											
23											
24											
25				1				1			
26											
27				1				1			
28				1				1			
29				•				1			
30								1			
Measured	90	33	106	45	1	1	4	5	14	26	5
Counted	1259					•					
TOTAL	1349	33	106	45	1	1	4	5	14	26	5
fish/ net											
(6 nets)	225	5.5	18	7.5	0.2	0.2	0.7	0.8	2.3	4.3	8.0

**Turtles:** Painted turtles were common in Rice Lake in October of 2024 (Table 4). Snapping turtles may have already gone into hibernation.

Table 4. Rice Lake painted turtle and snapping turtle catch per net for 2024.

**Trapnets** 

	TO	ΓAL
Net	Painted	Snapping
1		
2	13	
3		
4		
5		
6	1	
Total Turtles Caught	14	0
Average number/lift	2.3	0.0





Painted turtles were common and so were carp. A dogfish was also captured. No snapping turtles were sampled.

# **Interesting Fish Related Observations in 2024**





Crappies

Northern pike





Bluegills

Largemouth bass





Dogfish

Carp

Fish Conditions from Surveys in 2008, 2014, 2022, 2023, and 2024



2008



2014



2022



# **Appendix**

#### Appendix: E-Mail Notification of Fish Survey to Be Conducted

From: mccomas@pclink.com < mccomas@pclink.com>

**Sent:** Monday, October 14, 2024 4:13 PM

To: Daryl Ellison <daryl.ellison@state.mn.us>; Capt. Jason Peterson <jason.r.peterson@state.mn.us>

Cc: George Schneider <dukewolves@comcast.net>

Subject: Fish survey on Rice Lake (27-011600) on October 17 and 18, 2024

Hello all,

Blue Water Science will be conducting a fish survey in Rice Lake (MN ID 27-011600), Hennepin County, starting on Thursday, October 17, 2024. We will set 6 trap nets in Rice Lake. The nets will be monitored and removed on Friday, October 18, 2024 and all fish will be weighed, measured, and returned to the lake. The fish survey is sponsored by the Rice Lake Association with the objectives of characterizing the existing fish community structure and assessing potential impacts of fish on water quality.

This survey is being conducted under the permit number: 36443.

Thank you, **Steve McComas BLUE WATER SCIENCE**550 South Snelling Avenue

St. Paul, MN 55116

651 231 2778 - cell mccomas@pclink.com

## **Appendix: 2023 Rice Lake Trapnet Results**

Total fish sampled for the Rice Lake fish survey conducted on September 19, 2023.

September 2023								
	Net 1	Net 2	Net 3	Net 4	Net 5	Net 6	Total	Fish/net
Black bullhead								
YOY (4-6 inch)	5	10	1	4	93	2	115	19
Adults		100	96	18	140	6	360	60
Bluegill sunfish								
YOY				6			6	1
Adults	1			8	6	8	23	3.8
Black crappie								
YOY (less than 3 in)					10		10	2
Adults	15	1098	340	149	1498	24	3124	521
Carp								
Adults	12	15	22	16	7	2	74	12.3
Largemouth bass								
Adults	1						1	0.2
Northern pike								
Adults		2		2	1	3	8	1.3
Yellow perch								
YOY (less than 4 in)				25			25	4.2
Adults	1		5	3	15	8	32	5.3
Dogfish			1	1	3		5	0.8
Golden shiner					1		1	0.2
Pumpkinseed sunfish	1		1			1	3	0.5
White sucker		2	1	3	8	1	15	2.5
Yellow bullhead	3	12	3	3	5	3	29	4.8
Total fish caught	39	1,239	470	238	1,787	58	3,831	639
Fish per net	7	207	78	40	298	10	639	106

2023: Length frequency of fish species (as total length) for the Rice Lake fish survey from the standard trapnets.

Length (inches)	Black bullhead	Black crappie	Bluegill	Carp	Dogfish	Golden shiner	Largemouth Bass	Northern pike	Pumpkinseed	White sucker	Yellow bullhead	Yellow perch
<3		10	6									
3		2	9									1
3.5		19										11
4	4	17										15
4.5		7										1
5	3	16	1								1	11
5.5	6	91	11									3
6	102	90	5			1						6
6.5	8	3	8						1			1
7	5	1	10									1
7.5	1	•	14								3	
8		2	13								1	
8.5	4	2	2								2	2
9	4 17	15 22									3	4
9.5 10	26	29									4	1
10.5	8	16									2	
10.5	0	6		1						1	1	
11.5		1		!								
12		1								1	6	
12.5											2	
13											5	
13.5											1	
14				7								
14.5				9								
15				17								
15.5				11								
16				12			1					
16.5				1								
17				10	2					1		
17.5												
18				2	1					5		
18.5										1		
19												
19.5										1		
20										4		
21					1					1		
22					1			1				
23												
24				1								
25												
26				1				1				
27												
28				1				1				
29								1				
30								_				
31				1				2				
32 33								2				
್ರಾ Measured	184	350	79	74	5	1	1	8	3	15	29	57
Counted	291	2784	0	0	0	0	0	0	0	0	0	0
TOTAL	475	3134	79	74	5	1	1	8	3	15	29	57
fish/ net												
(6 nets)	79.2	522.3	13.2	12.3	8.0	0.2	0.2	1.3	0.5	2.5	4.8	9.5

## **Appendix: 2022 Rice Lake Trapnet Results**

Total fish sampled for the Rice Lake fish survey conducted on September 6-8, 2022.

September 2022														
	Ne	t 1	Ne	et 2	Ne	et 3	Ne	et 4	Ne	t 5	Ne	t 6	Total	Fish/
	Day 1	Day 2		net										
Black bullhead														
YOY (4-6 inch)	500	280	35	38	67	16	33		19		63	80	1131	94
Adults	128	125	15	5	66	83	4	1	70	20	5	70	592	49
Bluegill sunfish														
YOY													0	0
Adults	20	32	3	10	2	8	5		8		4	1	93	7.8
Black crappie														
YOY (less than 3 in)	93	320	440	86	54	520	73		1	26	56	420	2,089	174
Adults	39	68	9	3	7	8	3		94	410	48	3	692	58
Carp	•		•					•	•	•				
YOY		50											50	4.2
2 year old fish	408	290	21	57	170	2	240	181	27	2	43	36	1477	123
Adults	1	1	2	1			1	1	3	5	1	4	20	1.7
Largemouth bass										N.				
YOY (less than 5 in)			1		6								7	0.6
Adults	13	16	3			2		2	3	2	5		46	3.8
Northern pike			•		•				•					
Adults		1				3			1	1			6	0.5
Yellow perch			•		•				•					
YOY (less than 4 in)	1						4						5	0.4
Adults	9	20	1		1	6	12	29	5	7	1	6	97	8.1
Golden shiner							1						1	0.1
Hybrid sunfish	1	2	1		1		1						6	0.5
Pumpkinseed sunfish	1												1	0.1
Walleye			1										1	0.1
White sucker		1							1				2	0.2
Yellow bullhead	2	29	4		2		1	1	1	4		19	63	5.3
Total fish caught	1,216	1,235	536	200	376	648	378	215	233	477	226	639	6,379	532
Fish per net	203	206	89	33	63	108	63	36	39	80	38	107	1,065	89

2022: Length frequency of fish species (as total length) for the Rice Lake fish survey from the standard trapnets for 2022.

Rice	Black bullhead	Black crappie	Bluegill		Golden shiner	Hybrid sunfish	LM Bass	Northern pike	Pumpkin- seed	Walleye	White sucker	Yellow bullhead	Yellow perch
<3	1131	2472		71									5
3	1												7
3.5		1			1								5
4	2						3						31
4.5				1			2						3
5				9			3						1
5.5				13			1						1
6			7	20			1						1
6.5		1	20	24		1							1
7	1		47	38		2			1				7
7.5		2	18	25									3
8	4	7	3	17		1						2	7
8.5	8	31	3	6		1							10
9	20	94	1	2		1							12
9.5	47	46	-	2									6
10	76	27					1					2	2
10.5	28	4					1					3	<del></del>
11	10	1					3					4	
11.5	1						1				1	2	
12	<u>'</u>						11				'	2	
12.5	1						2						
13	<u> </u>						3						
13.5							10						
14							5						
14.5							4						
15		1					1						
15.5							'						
16							1						
16.5													
17													
17.5													
18											1		
18.5											·		
19													
19.5										1			
20										1			
20													
20.5 21								4					
21								1					
21.5													
22												-	
22.5								1					
23								1					
23.5													
24				1									
24.5													
25													
26				4									
27				2				1					
28				1									
29				2									
30				5									
31				11				1					
32				1				1					
33				2									
34													
35													
36				1									
Measured	1330	2687	99	248	1	6	53	6	1	1	2	15	102
Counted	393	94	0	1298	0	0	0	0	0	0	0	0	0
TOTAL	1723	2781	99	1546	1	6	53	6	1	1	2	15	102
fish/ net (12 nets)	144	232	8.3	129	0.1	0.5	4.4	0.5	0.1	0.1	0.2	1.3	8.5

## **Appendix: 2014 Rice Lake Trapnet Results**

#### Rice Lake trapnet results for the fish survey conducted in July 2014.

					Fish C	aptured (	July 17-18	3 2014)					Total	2014	Normal
	Ne	et 1	Ne	t 2	Ne	et 3	Ne	t 4	Ne	t 5	Ne	t 6	Catch	Fish per Net	Range (MnDNR)
	Day 1	Day 2	Day 1	Day 2	Day 1	Day 2	Day 1	Day 2	Day 1	Day 2	Day 1	Day 2		(n=12)	(2)
Black bullhead (Ameiurus melas)	15	13	8	9	5		5		11	8	8	9	91	7.6	2.2 - 60.5
Black crappies (Pomoxis nigromaculatus)	2	4	1	1	3	1	6		4	8	1	2	33	2.8	2.4 - 15.1
Bluegill sunfish (Lepomis macrochirus)	68	51	95	56	44	10	75	1	184	71	82	12	749	62	1.9 - 29.5
Carp (Cyprinus carpio)			1		1		1						3	0.3	1.0 - 3.6
Golden shiner (Notemigonus crysoleucas)	18	17	10	1	9	1	7	1	58	30	15	27	194	16	NA
Green Sunfish ( <i>Lepomis cyanellus</i> )				1									1	0.1	0.2 - 2.0
Largemouth bass (Micropterus salmoides)					1		2			1	1	1	6	0.5	0.3 - 1.2
Northern Pike (Esox lucius)			3	5							4	4	16	1.3	NA
Pumpkinseed sunfish (Lepomis gibbosus)											1		1	0.1	0.8 - 8.4
White sucker (Catostomus commersonii)											1		1	0.1	0.3 - 2.2
Yellow bullheads (Ameiurus natalis)			5	5						1		1	12	1.0	0.8 - 6.2
Yellow perch (Perca flavescens)			2	2	1		1			1	1		8	0.7	0.5 - 3.4
TOTAL FISH	103	85	125	80	64	12	97	2	257	120	114	56	1,115	92.9	
Turtles - painted			2	1	13	1	5		1	1	11	1	36	1.5	
Turtles - snapping					2			1			2		5	0.9	
Black bullhead YOY (Ameiurus melas)			4,852	190	2,710	95							7,847	654	NA
Black crappies YOY (Pomoxis nigromaculatus)						5		10					15	1.3	NA
Bluegill sunfish YOY (Lepomis macrochirus)						10	16	6					32	2.7	NA
Carp YOY (Cyprinus carpio)	15	12	756	1,036	626	39	100	12	456	939	25	846	4,862	405	NA

# 2014: Length frequency of fish species (as total length) for the Rice Lake fish survey from the standard trapnets for 2014 (young of the year bullhead lengths are not shown).

size (inches)	Black bullhead	Bluegills	Carp	Crappies	Golden shiner	Green sunfish	Large- mouth bass	Northern pike	Pumpkin- seeds	White suckers	Yellow bullhead	Yellow perch
<3		32		15								
3		6	4				1					1
3.5			6									
4		3	28		3		2					1
4.5		3	65	1	9	1			1			
5		2	61	1	10							
5.5		3	65	1	6							
6	4	25	13		53			1			2	1
6.5	1	154	2		38							
7	3	144		1	34			1			1	
7.5	1	43	1	6	1			4			1	2
8	2	1	i	8				2				3
8.5				12				2			2	
9	7		İ	3				4			1	
9.5	12							1			3	
10	22		i					1			2	
10.5	26		1									
11	13		<u></u>									
11.5			<u></u>									
12			<u></u>									
12.5			<u> </u>									
13			L									
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16			<b> </b>									
16.5												
17							1					
18												
19							1					
20												
21												
22												
23												
24			1									
25			1									
26			1									

### **Appendix: 2008 Rice Lake Trapnet Results**

#### Rice Lake trapnet results for the fish survey conducted in August 2008.

Net	Bluegill	Bullhead Black	Bullhead Black YOY	Bullhead Yellow	Black Crappie	Carp	Dogfish	Golden Shiner	Largemouth Bass	Northern Pike	Pumpkin- seed	Sucker	Yellow Perch
Tuesday (8/	19/08)												
1	37	141		1	30	4			4			3	4
2	64	648	10	2	42	11	1		1	1	1	9	
3	77	112	90	1	65				2		7	21	3
4	2	2		1	7			13					1
subtotal	180	903	100	5	144	15	1	13	7	1	8	33	8
fish/ net	45	226	25	1.3	36	3.8	0.3	3.3	1.8	0.3	2.0	8.3	2.0
Wednesday	(8/20/08)												
1	61	163		3	46	2			1		1	7	25
2	43	100	24		70	12			1		2	2	2
3	51	236	61		63	4			3		1		5
4	3	16			8	1		5					1
subtotal	158	515	65	3	187	19	0	5	5	0	4	9	33
fish/ net	40	129	16	0.8	47	4.8		1.3	1.3		1.0	2.3	8.3
Thursday (8/	/21/08)												
1	9	49		1	64	3		3	5			17	8
2	56	86		1	78	4	1		4			12	
3	42	555	26	1	70	3			1			7	
4	2	16			6	2		1					1
subtotal	109	706	26	3	218	12	1	4	10	0	0	36	9
fish/ net	27	177	6.5	0.8	55	3.0	0.3	1.0	2.5			9.0	2.3
Total Fish (12 nets)	447	2,124	191	11	549*	46	2	22	22	1	12	78	50
Fish/ Trapnet	37	177	16	0.9	46	3.8	0.2	1.8	1.8	0.1	1.0	6.5	4.2
MnDNR Normal Range*	7.5 - 63	0.7 - 26	NA	0.8 - 6.2	1.8 - 21	1.0 - 3.6	0.5 - 1.7	NA	0.3 - 1.2	NA	0.8 - 8.4	0.3 - 2.2	0.5 - 3.4

<sup>\* 27</sup> YOY black crappies were involved in total count

#### Rice Lake mini-trapnet results for the fish survey conducted in August 2008.

Net	Bluegill	Bluegill YOY	Bullhead Black	Bullhead Black YOY	Bullhead Yellow	Black Crappie	Black Crappie YOY	Carp	Golden Shiner	Large- mouth Bass	Pumpkin- seed	Sucker	Yellow Perch
Tuesday (8,	/19/08)												
1	18		17	42		31	1	2	6	2			9
2	6	1,620	1			2							1
3*	4	30	7		1	13	16	2		1	1		2
subtotal	28	1,650	25	42	1	46	17	4	6	3	1	0	12
fish/ net	9.3	550	8.3	14	0.3	15	5.7	1.3	2.0	1.0	0.3		4.0
Wednesday	y (8/20/08)												
1	15		1	26		13		3	2				2
2	8	1,500	2										
3	9		13	52		19				1			2
subtotal	32	1,500	16	78		32		3	2	1	0	0	4
fish/ net	11	500	5.3	26		11		1.0	0.7	0.3			1.3
Thursday (8	3/21/08)												
1	3			25		11			1				
2*	4	750				6		1	1	4			2
3	3	50	9	2	2	10	16			4		2	10
subtotal	10	800	8	27	2	27	16	1	2	8	0	2	12
fish/ net	3.3	267	3.0	9.0	0.7	9.0	5.3	0.3	0.7	2.7		0.7	4.0
Total Fish (9 nets)	70	3,950	50	147	3	105	33	8	10	12	1	2	28
Fish/ Mini Trapnet	7.8	439	5.6	16	0.3	12	3.7	0.9	1.1	1.3	0.1	0.2	3.1

\*Day 1; net 3: crayfish = 1 Day 3; net 2: shiner minnows = 2

# 2008: Length frequency of fish species (as total length) for the Rice Lake fish survey from the standard trapnets.

(in) <3.0 3.0 3.5 4.0		Bullhead				Shiner	Largemouth Bass	Northern Pike	Pumpkin- seed		Yellow Perch
3.0 3.5			Crappie			Sniner	Dass	Pike	seea		Percn
3.5							2				
							2				
4()	1						2				
4.5											
5.0	14					3	5		7		
5.5	21					Ü	Ü		1		
6.0	88	1	3			10					6
6.5	60	1				3					2
7.0	55	4	6			4	1				22
7.5	5	4	9								7
8.0	1	22	87			1					9
8.5		2	42								3
9.0			76								
9.5			4								
10.0		2	4								
10.5		1									
11.0											
11.5											
12							1				
13							1			1	
14							1				
15							1			1	
16							3			6	
17										24	
18							2			21	
19										22	
20										2	
21				8						1	
22				9	2						
23				7							
24				11							
25				3							
26				2				1			
27											
28 29											
				<b>—</b>				1			
30 31				1				1			