



# Minnesota Department of Natural Resources Fisheries Management



## STANDARD LAKE SURVEY REPORT

**DRAFT VERSION - PRELIMINARY DATA (AS OF 08/17/2012)**

**Lake Name: Circle**

**Survey Type: Population Assessment**

**DOW Number: 66-0027-00**

**Survey ID Date: 06/18/2012**

### Lake Identification

Alternate Lake Name: N/A  
Primary Lake Class ID: 43

DNR Sounding Map Number: B0448  
Alternate Lake Class ID: N/A

### Lake Location

Primary County: Rice

Nearest Town: Lonsdale

### Legal Descriptions

Lake Center: Township - 111N Range - 21W Section - 16  
PLS Section Lake Center: 11102116

**All Legal Descriptions:**

Rice County: Township - 111N Range - 21W Sections - 15, 16, 17, 21, 22

### Area Office

Area Name: Waterville  
Region Name: Southern

ORG Code: F417  
Region Number: 4

### Lake Access

(Information based on Re-Survey dated 06/21/1993)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	NORTH SHORE ON WEST BAY; STATE OWNED. CONCRETE PLANK RAMP.

### Lake Characteristics

Lake Area (planimetered acres): 624.00	GIS Shoreline Length (miles): 9.52
GIS Lake Area (acres): 837.58	Maximum Fetch (miles): 1.90
DOW Lake Area (acres): 976.00	Fetch Orientation (degrees): 292
Littoral Area (acres): 837.58	USGS Quad Map Number: U16a
Area in MN (acres): 837.58	USGS Quad 24K GIS Index: 4032
Maximum Depth (feet): 14.0	
Mean Depth (feet): N/A	

### Watershed Characteristics

**Major Watershed**

Name: Cannon River  
Watershed Number: 39  
Watershed size (acres): 940,540

**Minor Watershed**

Name: Wolf Cr  
Watershed Number: 76  
Watershed size (acres): 8,565

**Surveys And Investigations**

**Initial Survey:** 08/03/1983.  
**Re-Survey:** 06/18/2001, 06/21/1993.  
**Population Assessment:** 06/18/2012, 06/25/2007, 07/20/2004, 06/16/1999, 07/27/1988, 07/30/1986.  
**Special Assessment:** 11/17/1998.  
**Dissolved Oxygen Check:** 01/18/2012, 01/12/2011, 01/12/2010.  
**External Management Survey:** 08/30/2007.

**Dissolved Oxygen And Temperature Profile Of Lake Water**

<u>Station ID</u>	<u>Sampling Date</u>	<u>Bottom Depth (Feet)</u>	<u>Sample Depth (Feet)</u>	<u>Water Temperature (°F)</u>	<u>Dissolved Oxygen (ppm)</u>
WQ - 1	06/18/2012	10.0	Surface	74.5	9.4
			1.0	73.4	9.6
			2.0	72.3	7.3
			3.0	71.1	4.0
			4.0	70.3	4.0
			5.0	70.3	3.9
			6.0	70.3	3.8
			7.0	70.3	3.7
			8.0	70.2	3.6
			9.0	70.2	3.0
			10.0	70.0	2.8

**Field Measurements Of Water Quality**

<u>Station ID</u>	<u>Sampling Date</u>	<u>Sample Depth (Feet)</u>	<u>Secchi Depth (Feet)</u>	<u>Field pH</u>	<u>Alkalinity (ppm)</u>	<u>Water Color</u>	<u>Color Cause</u>
WQ - 1	06/18/2012	10.0	2.5	N/A	N/A	Lt Green	Algae

**Net Catch Summary by Numbers for GN**

**Standard gill net sets**

**Number of Sets:** 3  
**First Set Date:** 06/18/2012  
**Last Lift Date:** 06/21/2012  
**Target Species:** N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	1	0.33	0.75	2.58	6.96
BLB	Black Bullhead	155	51.67	30.34	75.58	150.62
BLC	Black Crappie	126	42.00	1.41	3.71	13.75
BLG	Bluegill	5	1.67	N/A	N/A	N/A
CAP	Common Carp	3	1.00	1.00	3.33	13.75
FRD	Freshwater Drum	7	2.33	0.50	2.56	8.33
NOP	Northern Pike	11	3.67	1.08	3.00	8.00
WAE	Walleye	35	11.67	2.28	6.83	18.06
WHB	White Bass	3	1.00	0.28	5.50	9.94
WTS	White Sucker	11	3.67	0.81	2.33	6.50
YEB	Yellow Bullhead	1	0.33	0.50	1.50	3.50
YEP	Yellow Perch	422	140.67	2.65	8.00	25.00
Total Fish/Set:			260.00	* Quartiles for Number Per Set		

**Net Catch Summary by Weight for GN**

**Standard gill net sets**

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 43*		
					25%	50%	75%
BIB	Bigmouth Buffalo	1.67	0.56	1.67	N/A	N/A	N/A
BLB	Black Bullhead	71.22	23.74	0.46	0.17	0.26	0.39
BLC	Black Crappie	8.50	2.83	0.07	0.16	0.25	0.35
BLG	Bluegill	0.82	0.27	0.16	N/A	N/A	N/A
CAP	Common Carp	20.92	6.97	6.97	0.81	1.98	3.70
FRD	Freshwater Drum	8.84	2.95	1.26	0.40	0.82	1.67
NOP	Northern Pike	32.77	10.92	2.98	1.82	2.50	3.35
WAE	Walleye	61.95	20.65	1.77	1.01	1.53	2.30
WHB	White Bass	5.23	1.74	1.74	N/A	N/A	N/A
WTS	White Sucker	19.24	6.41	1.75	0.93	1.58	2.02
YEB	Yellow Bullhead	0.59	0.20	0.59	0.31	0.53	0.73
YEP	Yellow Perch	74.74	24.91	0.18	0.13	0.21	0.31
Total Pounds Fish/Set:			102.17	* Quartiles for Mean Weight			

**Net Catch Summary by Numbers for TN**

Standard 3/4-in mesh, double frame trap net sets

Number of Sets: 8  
 First Set Date: 06/18/2012  
 Last Lift Date: 06/22/2012  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	21	2.63	0.17	0.38	1.04
BLB	Black Bullhead	198	24.75	11.50	42.00	132.61
BLC	Black Crappie	106	13.25	1.17	4.88	20.50
BLG	Bluegill	168	21.00	1.17	3.89	20.00
BOF	Bowfin (Dogfish)	1	0.13	0.33	0.50	0.92
CAP	Common Carp	54	6.75	1.00	2.44	5.51
CRC	Creek Chub	1	0.13	N/A	N/A	N/A
FRD	Freshwater Drum	3	0.38	0.23	0.92	3.25
GOS	Golden Shiner	11	1.38	0.22	0.50	1.10
HSF	Hybrid Sunfish	2	0.25	N/A	N/A	N/A
LMB	Largemouth Bass	3	0.38	0.23	0.38	0.67
WAE	Walleye	1	0.13	0.50	1.33	2.95
YEB	Yellow Bullhead	5	0.63	0.50	1.13	2.50
YEP	Yellow Perch	11	1.38	0.33	1.37	3.76
Total Fish/Set:			73.13	* Quartiles for Number Per Set		

**Net Catch Summary by Weight for TN**

Standard 3/4-in mesh, double frame trap net sets

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 43*		
					25%	50%	75%
BIB	Bigmouth Buffalo	50.56	6.32	2.41	2.56	3.75	5.83
BLB	Black Bullhead	80.89	10.11	0.41	0.18	0.28	0.40
BLC	Black Crappie	10.28	1.29	0.10	0.22	0.34	0.50
BLG	Bluegill	21.94	2.74	0.13	0.13	0.24	0.39
BOF	Bowfin (Dogfish)	8.78	1.10	8.78	2.71	3.31	3.78
CAP	Common Carp	354.77	44.35	6.57	1.42	2.92	4.58
CRC	Creek Chub	0.14	0.02	0.14	N/A	N/A	N/A
FRD	Freshwater Drum	5.01	0.63	1.67	0.28	0.60	0.95
GOS	Golden Shiner	0.87	0.11	0.08	0.06	0.10	0.10
HSF	Hybrid Sunfish	0.20	0.02	0.10	N/A	N/A	N/A
LMB	Largemouth Bass	4.74	0.59	1.58	0.30	0.85	1.53
WAE	Walleye	1.41	0.18	1.41	0.82	1.44	2.28
YEB	Yellow Bullhead	4.51	0.56	0.90	0.31	0.48	0.67
YEP	Yellow Perch	1.36	0.17	0.12	0.11	0.18	0.30
Total Pounds Fish/Set:			68.18	* Quartiles for Mean Weight			

**STANDARD LAKE SURVEY REPORT**  
**POPULATION ASSESSMENT DATED 06/18/2012 FOR DOW NUMBER 66-0027-00**

**DRAFT**

**Length Frequency Distribution For GN**

**Standard gill net sets**

(Field work conducted between 06/18/2012 and 06/21/2012)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>FRD</u>	<u>NOP</u>	<u>WAE</u>	<u>WHB</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	1	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	43	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	7	54	1	-	-	-	-	-	-	-	-
5.00 - 5.49	-	4	19	-	-	-	-	-	-	-	-	41
5.50 - 5.99	-	1	-	-	-	-	-	-	-	-	-	60
6.00 - 6.49	-	5	-	1	-	-	-	-	-	-	-	21
6.50 - 6.99	-	4	-	-	-	-	-	-	-	-	-	44
7.00 - 7.49	-	5	2	2	-	-	-	-	-	-	-	75
7.50 - 7.99	-	2	3	-	-	-	-	-	-	-	-	83
8.00 - 8.49	-	8	3	-	-	-	-	-	-	-	-	67
8.50 - 8.99	-	11	-	-	-	1	-	-	-	-	-	17
9.00 - 9.49	-	20	-	-	-	-	-	-	-	-	-	3
9.50 - 9.99	-	36	2	-	-	-	-	-	-	-	-	3
10.00 - 10.49	-	33	-	-	-	-	-	-	-	-	1	7
10.50 - 10.99	-	10	-	-	-	-	-	-	-	1	-	1
11.00 - 11.49	-	6	-	-	-	-	-	1	-	-	-	1
11.50 - 11.99	-	2	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	1	-	-	-	2	-	-	-	1	-	-
13.00 - 13.99	-	-	-	-	-	-	-	-	-	1	-	-
14.00 - 14.99	1	-	-	-	-	2	-	8	3	-	-	-
15.00 - 15.99	-	-	-	-	-	1	-	7	-	2	-	-
16.00 - 16.99	-	-	-	-	-	-	1	-	-	2	-	-
17.00 - 17.99	-	-	-	-	-	-	1	3	-	1	-	-
18.00 - 18.99	-	-	-	-	-	1	-	12	-	2	-	-
19.00 - 19.99	-	-	-	-	-	-	-	1	-	1	-	-
20.00 - 20.99	-	-	-	-	-	-	-	2	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	1	1	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	1	-	-	-	-	-
23.00 - 23.99	-	-	-	-	1	-	1	-	-	-	-	-
24.00 - 24.99	-	-	-	-	1	-	2	-	-	-	-	-
25.00 - 25.99	-	-	-	-	1	-	3	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	1	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-
	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>FRD</u>	<u>NOP</u>	<u>WAE</u>	<u>WHB</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	1	155	126	5	3	7	11	35	3	11	1	423
Min. Length	14.17	4.72	4.13	3.98	23.58	8.82	16.38	11.42	14.76	10.67	10.31	5.12
Max. Length	14.17	12.83	9.84	7.28	25.83	18.50	29.49	21.10	14.92	19.25	10.31	11.22
Mean Length	14.17	9.14	5.02	5.87	24.72	13.77	23.42	17.01	14.84	15.71	10.31	7.15
# Measured	1	155	102	5	3	7	11	35	3	11	1	402
No Lengths for	0	0	24	0	0	0	0	0	0	0	0	20

**Note:** Unless all fish were measured in the catch, totals shown for some length-frequency distributions may differ from the total number of fish in the catch, due to rounding of fractions used in the estimation of length frequency from a subsample of measured fish

Length Frequency Distribution For TN

Standard 3/4-in mesh, double frame trap net sets

(Field work conducted between 06/18/2012 and 06/22/2012)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>CAP</u>	<u>CRC</u>	<u>FRD</u>	<u>GOS</u>	<u>HSF</u>	<u>LMB</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	2	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	19	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	6	59	-	-	-	-	-	1	-	-	-	-
4.00 - 4.49	-	8	31	20	-	-	-	-	1	-	-	-	-	-
4.50 - 4.99	-	14	35	2	-	-	-	-	-	-	-	-	-	1
5.00 - 5.49	-	8	14	2	-	-	-	-	-	-	-	-	-	4
5.50 - 5.99	-	10	3	3	-	-	-	-	4	1	-	-	-	2
6.00 - 6.49	-	3	-	27	-	-	-	-	5	-	-	-	-	-
6.50 - 6.99	-	17	-	15	-	-	-	-	1	-	-	-	-	-
7.00 - 7.49	-	10	2	16	-	-	1	-	-	-	-	-	-	1
7.50 - 7.99	-	-	3	-	-	-	-	-	-	-	-	-	-	2
8.00 - 8.49	-	7	6	-	-	-	-	-	-	-	-	-	-	1
8.50 - 8.99	-	-	1	-	-	-	-	-	-	-	-	-	1	-
9.00 - 9.49	-	25	2	-	-	-	-	-	-	-	-	-	-	-
9.50 - 9.99	-	38	3	2	-	-	-	-	-	-	-	-	1	-
10.00 - 10.49	1	24	-	-	-	-	-	-	-	-	-	-	1	-
10.50 - 10.99	-	13	-	-	-	-	-	-	-	-	-	-	-	-
11.00 - 11.49	-	13	-	-	-	-	-	1	-	-	-	-	-	-
11.50 - 11.99	-	7	-	-	-	-	-	1	-	-	-	-	-	-
12.00 - 12.99	-	2	-	-	-	-	-	-	-	-	-	-	1	-
13.00 - 13.99	8	-	-	-	-	-	-	-	-	-	2	-	-	-
14.00 - 14.99	8	-	-	-	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	1	-	-	-	-	-	-	-	-	-	-	1	1	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-	1	-	-	-
17.00 - 17.99	-	-	-	-	-	2	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	2	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	5	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	3	-	1	-	-	-	-	-	-
21.00 - 21.99	1	-	-	-	-	5	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	8	-	-	-	-	-	-	-	-
23.00 - 23.99	2	-	-	-	-	7	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	3	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	3	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	5	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	2	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	5	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	1	3	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>CAP</u>	<u>CRC</u>	<u>FRD</u>	<u>GOS</u>	<u>HSF</u>	<u>LMB</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	21	199	106	167	1	54	1	3	11	2	3	1	5	11
Min. Length	10.00	4.29	3.50	2.87	29.69	17.09	7.32	11.42	4.41	3.82	13.19	15.94	8.98	4.72
Max. Length	23.98	12.01	9.76	9.65	29.69	30.91	7.32	20.08	6.50	5.79	16.38	15.94	15.16	8.15
Mean Length	15.22	9.15	5.40	4.86	29.69	23.78	7.32	14.45	5.93	4.80	14.34	15.94	11.35	6.20
# Measured	21	102	76	99	1	54	1	3	11	2	3	1	5	11
No Lengths for	0	96	30	69	0	0	0	0	0	0	0	0	0	0

**Note:** Unless all fish were measured in the catch, totals shown for some length-frequency distributions may differ from the total number of fish in the catch, due to rounding of fractions used in the estimation of length frequency from a subsample of measured fish

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**Other Species**

<b>Gear Type (1)</b>	<b>Other Species (Gender) (2)</b>	<b>Total Num</b>	<b>Number Measured</b>	<b>Length (inches) Min - Mean - Max</b>	<b>Number Weighed</b>	<b>Weight (pounds) Min - Mean - Max</b>
TN	Painted Turtle (Female)	1	1	5.20	0	N/A
	Painted Turtle	34	0	N/A	0	N/A

**(1) Key to sampling gear abbreviations:**

TN = Standard 3/4-in mesh, double frame trap net sets

**(2) Gender:** If identified and reported.

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Approval Dates And Notices

Date Approved By Waterville Area Fisheries Supervisor: \_\_\_\_\_

Date Approved By Southern Region Fisheries Manager: \_\_\_\_\_

**This Draft version of the Standard Lake Survey Report contains preliminary data (as of 08/17/2012), and is therefore subject to change at any time.**



Minnesota Department of Natural Resources

By accepting the data in this report, the user agrees the data will be used for personal benefit and not for profit. Any other uses or publication of the data needs the consent of the Department. The Minnesota Department of Natural Resources assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on the data.



## REPORT OVERVIEW - FOR OFFICE USE ONLY

(This page is not part of the Standard Lake Survey Report and should be discarded )

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**Lake Name: Circle**

**Survey Type: Population Assessment**

**DOW Number: 66-0027-00**

**Survey ID Date: 06/18/2012**

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**Survey Status:** Field Work Complete

The following 22 (of 31) report components are not included in this report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History\*
4. Water Level History - Readings\*
5. Water Level History - Station Summary\*
6. Lake Inlets
7. Additional Inlet Information
8. Lake Outlets
9. Additional Outlet Information
10. Water Control Structure (Dam)
11. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations
12. Resorts And Campgrounds
13. Fish Spawning Conditions
14. Erosion And Pollution
15. Fish Diseases And Parasites
16. Aquatic Vegetation And Shoalwater Substrates
17. Laboratory Analysis Of Water Chemistry
18. Length At Capture With Last Incremental Length\*
19. Back-Calculated Lengths
20. Age Class Frequency Distributions
21. Status Of Fishery And Field Notes
22. Water Quality (Winter Observations) (added to revision 01/21/2010)

\* Water Level History report: This data has not yet been migrated into the Fisheries LSM database. On 01/08/2009, two additional Water Level History report components (Readings and Station Summary) were added.

\* Length At Capture With Last Incremental Length report: The following criteria must be met for a report to be generated:

1. The fish species must have an assigned body scale constant.
2. Fish must have an "official" age assigned.
3. Fish must have a digitized measurement marked for back calculation use.

**Note: The data source for Length and Age Class Frequency Distribution tables is updated twice daily - once at noon and once overnight. Any changes to the data made after noon on 08/17/2012 may not be reflected in the Distribution tables until 08/18/2012.**

The following survey component was flagged to be specifically excluded from this report: TN - 3