

Lake Name: Sarah

Survey Type: Standard Survey

DOW Number: 51-0063-00

Survey ID Date: 09/07/2021

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 41

DNR Sounding Map Number: B0276
Alternate Lake Class ID: N/A

Lake Location

Primary County: Murray

Nearest Town: Garvin

Legal Descriptions

Lake Center: Township - 108N Range - 41W Section - 16
PLS Section Lake Center: 10804116

All Legal Descriptions:

Murray County: Township - 108N Range - 41W Sections - 9, 15, 16, 17, 21, 22

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Re-Survey dated 06/14/1993)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	STATE OWNED ACCESS ON THE WEST NW SIDE OF THE LAKE T108N; 41W; S16.
AC - 2	County	Open to Public use	Concrete	COUNTY OWNED ACCESS ON THE WEST SIDE OF THE LAKE. T108N; 41W; S16.
AC - 3	County	Open to Public use	Concrete	COUNTY OWNED ACCESS ON THE EAST SIDE OF THE LAKE. T108N; 41W; S16;22.

Lake Characteristics

Lake Area (planimetered acres): 1,093.00
GIS Lake Area (acres): 1,209.25
DOW Lake Area (acres): 1,176.00
Littoral Area (acres): 1,209.24
Area in MN (acres): 1,209.25
Maximum Depth (feet): 10.0
Mean Depth (feet): N/A

GIS Shoreline Length (miles): 8.13
Maximum Fetch (miles): 2.13
Fetch Orientation (degrees): 315
USGS Quad Map Number: V06a
USGS Quad 24K GIS Index: 4212

Watershed Characteristics**Major Watershed**

Name: Des Moines-Headwaters
Watershed Number: 51
Watershed size (acres): 798,595

Minor Watershed

Name: From Sarah L
Watershed Number: 82
Watershed size (acres): 7,388

Surveys and Investigations

Initial Survey: 06/18/1984.

Re-Survey: 06/10/2002, 06/14/1993.

Population Assessment: 06/02/2014, 06/07/2010, 06/05/2006, 06/08/1998, 06/12/1989.

Special Assessment: 06/30/2014, 09/28/2006, 10/10/2005, 09/28/2004, 10/08/2003, 09/18/2001, 09/24/2000, 09/16/1999, 09/24/1998, 10/14/1997, 09/29/1996, 10/09/1995, 10/13/1994, 10/14/1993.

Creel Survey: 05/09/1998.

Dissolved Oxygen Check: 02/16/2016, 02/18/2015, 12/31/2013, 02/06/2013, 01/02/2013, 01/11/2012, 12/28/2010, 01/04/2010.

Natural Reproduction Check: 10/15/2014, 10/07/2013, 10/11/2012, 10/20/2011, 09/21/2010.

Research Survey: 04/15/1991, 05/30/1990, 10/18/1989.

External Management Survey: 06/25/2008.

Standard Survey: 09/07/2021, 06/11/2018.

Targeted Survey: 10/07/2020, 02/05/2020, 10/07/2019, 10/16/2018, 01/18/2018, 10/10/2017, 02/08/2017, 10/11/2016, 09/27/2016, 10/06/2015.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	09/09/2021	Normal	-0.60	Above or below Benchmark
BM - 2	09/10/2021	Normal	-1.90	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	Below lowest dam face.
BM - 2	Top of cement on west side of the dam.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	09/09/2021	Normal	-0.60	Above or below Benchmark
	06/05/2010	Normal	N/A	Above or below Benchmark
	06/05/2006	Normal	0.00	Above or below Benchmark
BM - 2	09/10/2021	Normal	-1.90	Above or below Benchmark
	06/14/2018	Normal	-2.00	Above or below Benchmark
	06/05/2010	Normal	N/A	Above or below Benchmark
	06/05/2006	Normal	-0.50	Above or below Benchmark

Water Level History - Station Summary

Station ID	Minimum Level		Maximum Level		Range (feet)	Average Level (feet)	Reading Type (and number of readings)
	Feet	Date	Feet	Date			
BM - 1	-0.60	09/09/2021	0.00	06/05/2006	0.60	-0.30	Above or below Benchmark (2)
BM - 2	-2.00	06/14/2018	-0.50	06/05/2006	1.50	-1.47	Above or below Benchmark (3)

Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water Temperature (°F)	Dissolved Oxygen (ppm)
WQ - 1	09/10/2021	8.7	Surface	68.5	7.7
			2.0	68.5	7.8
			4.0	68.4	7.2
			6.0	68.4	7.7
			8.0	68.2	7.1

Field Measurements of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
WQ - 1	09/10/2021	Surface	4.7	8.62	260	Clear	No Data

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
First Set Date: 09/07/2021
Last Lift Date: 09/10/2021
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BLB	Black Bullhead	45	15.00	4.56	23.42	83.00
BLC	Black Crappie	4	1.33	0.83	2.63	11.10
WAE	Walleye	114	38.00	3.22	7.67	15.33
YEP	Yellow Perch	468	156.00	3.00	8.94	22.50
Total Fish/Set:			210.33	¹ 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 ²	Quartiles for Lake Class 41 ¹		
					25%	50%	75%
BLB	Black Bullhead	23.26	7.75	0.52	0.21	0.38	0.60
BLC	Black Crappie	0.17	0.06	0.04	0.17	0.25	0.37
WAE	Walleye	253.27	84.42	2.22	0.88	1.37	1.90
YEP	Yellow Perch	102.18	34.06	0.25	0.14	0.24	0.36
Total Pounds Fish/Set:			126.29	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Net Catch Summary by Numbers for TN

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

Number of Sets: 12
 First Set Date: 09/07/2021
 Last Lift Date: 09/10/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	1	0.08	0.22	0.48	1.45
BLB	Black Bullhead	204	17.00	1.33	14.73	78.13
BLC	Black Crappie	423	35.25	0.98	2.96	12.33
CAP	Common Carp	6	0.50	0.70	1.80	5.11
OSS	Orangespotted Sunfish	14	1.17	N/A	N/A	N/A
WAE	Walleye	35	2.92	0.31	0.73	1.69
YEB	Yellow Bullhead	1	0.08	0.50	1.60	4.05
YEP	Yellow Perch	973	81.08	0.25	0.81	2.62
Total Fish/Set:			138.08	¹ 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 ²	Quartiles for Lake Class 41 ¹		
					25%	50%	75%
BIB	Bigmouth Buffalo	12.50	1.04	12.50	1.25	3.18	5.07
BLB	Black Bullhead	53.99	4.50	0.33	0.21	0.36	0.59
BLC	Black Crappie	47.78	3.98	0.10	0.23	0.34	0.49
CAP	Common Carp	37.56	3.13	6.26	2.33	4.10	5.64
OSS	Orangespotted Sunfish	0.60	0.05	0.04	N/A	N/A	N/A
WAE	Walleye	45.28	3.77	1.33	0.85	1.63	2.41
YEB	Yellow Bullhead	0.80	0.07	0.80	0.40	0.60	0.84
YEP	Yellow Perch	246.81	20.57	0.22	0.13	0.20	0.31
Total Pounds Fish/Set:			37.11	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 09/07/2021 and 09/10/2021)

	<u>BLB</u>	<u>BLC</u>	<u>WAE</u>	<u>YEP</u>
< 3.00	-	-	-	-
3.00 - 3.49	-	-	-	-
3.50 - 3.99	-	2	-	-
4.00 - 4.49	2	1	-	1
4.50 - 4.99	3	1	-	-
5.00 - 5.49	3	-	-	-
5.50 - 5.99	-	-	-	-
6.00 - 6.49	3	-	-	4
6.50 - 6.99	2	-	-	39
7.00 - 7.49	2	-	1	125
7.50 - 7.99	5	-	-	208
8.00 - 8.49	3	-	-	39
8.50 - 8.99	1	-	-	17
9.00 - 9.49	4	-	-	14
9.50 - 9.99	1	-	-	11
10.00 - 10.49	5	-	-	8
10.50 - 10.99	3	-	-	-
11.00 - 11.49	2	-	-	-
11.50 - 11.99	1	-	-	-
12.00 - 12.99	1	-	9	1
13.00 - 13.99	3	-	36	-
14.00 - 14.99	1	-	11	-
15.00 - 15.99	-	-	-	-
16.00 - 16.99	-	-	1	-
17.00 - 17.99	-	-	3	-
18.00 - 18.99	-	-	6	-
19.00 - 19.99	-	-	9	-
20.00 - 20.99	-	-	16	-
21.00 - 21.99	-	-	4	-
22.00 - 22.99	-	-	10	-
23.00 - 23.99	-	-	4	-
24.00 - 24.99	-	-	1	-
25.00 - 25.99	-	-	-	-
26.00 - 26.99	-	-	2	-
27.00 - 27.99	-	-	1	-
28.00 - 28.99	-	-	-	-
29.00 - 29.99	-	-	-	-
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>BLB</u>	<u>BLC</u>	<u>WAE</u>	<u>YEP</u>
Total	45	4	114	467
Min. Length	4.29	3.94	7.36	4.45
Max. Length	14.13	4.76	27.56	12.64
Mean Length	8.64	4.19	17.19	7.93
# Measured	45	4	114	122
No Lengths for	0	0	0	346

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 09/07/2021 and 09/10/2021)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	1	-	-	-
3.00 - 3.49	-	-	11	-	-	-	-	-
3.50 - 3.99	-	7	229	-	11	-	-	-
4.00 - 4.49	-	62	65	1	2	-	-	-
4.50 - 4.99	-	67	39	-	-	-	-	-
5.00 - 5.49	-	15	8	-	-	-	-	17
5.50 - 5.99	-	3	-	-	-	-	-	1
6.00 - 6.49	-	3	-	-	-	-	-	23
6.50 - 6.99	-	2	-	-	-	4	-	59
7.00 - 7.49	-	3	2	-	-	12	-	275
7.50 - 7.99	-	3	7	-	-	5	-	289
8.00 - 8.49	-	3	5	-	-	-	-	130
8.50 - 8.99	-	2	-	-	-	-	-	18
9.00 - 9.49	-	1	16	-	-	-	-	26
9.50 - 9.99	-	3	30	-	-	-	-	69
10.00 - 10.49	-	-	12	-	-	-	-	50
10.50 - 10.99	-	3	-	-	-	-	-	18
11.00 - 11.49	-	2	-	-	-	-	1	-
11.50 - 11.99	-	-	-	-	-	-	-	-
12.00 - 12.99	-	6	-	-	-	2	-	-
13.00 - 13.99	-	16	-	-	-	-	-	-
14.00 - 14.99	-	4	-	-	-	-	-	-
15.00 - 15.99	-	-	-	2	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	1	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	1	-	-
20.00 - 20.99	-	-	-	-	-	3	-	-
21.00 - 21.99	-	-	-	-	-	2	-	-
22.00 - 22.99	-	-	-	-	-	2	-	-
23.00 - 23.99	-	-	-	1	-	1	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-
25.00 - 25.99	1	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	1	-	-
27.00 - 27.99	-	-	-	1	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	1	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	1	205	424	6	14	34	1	975
Min. Length	25.51	3.62	3.15	4.33	2.20	6.81	11.38	5.00
Max. Length	25.51	14.57	10.31	32.28	4.25	26.85	11.38	10.83
Mean Length	25.51	6.65	4.72	19.80	3.82	12.18	11.38	7.61
# Measured	1	126	232	6	14	34	1	249
No Lengths for	0	78	191	0	0	0	0	724

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

Other Species

Gear Type (1)	Other Species (Gender) (2)	Total Num	Number Measured	Length (inches) Min - Mean - Max	Number Weighed	Weight (pounds) Min - Mean - Max
TN	Painted Turtle	46	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.

Approval Dates And Notices

Date Approved By Windom Area Fisheries Supervisor: _____

Date Approved By Southern Region Fisheries Manager: _____

This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 09/14/2021), and is therefore subject to change at any time.



Minnesota Department of Natural Resources



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