

Lake Name: Sarah
DOW Number: 51-0063-00

Survey Type: Standard Survey
Survey ID Date: 09/09/2024

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)

<u>Station ID</u>	<u>Ownership</u>	<u>Public Use</u>	<u>Type</u>	<u>Location / Comments</u>
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, 12/28/2011, 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: 09/09/2024, 09/07/2021, 06/11/2018.

Targeted Survey: 05/22/2024, 10/09/2023, 09/11/2023, 10/10/2022, 10/14/2021, 10/07/2020, 02/05/2019, 10/07/2019, 10/16/2018, 01/18/2018, 10/10/2017, 02/08/2017, 10/11/2016, 09/27/2015, 10/06/2015.

Water Level History - Readings

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
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

<u>Station ID</u>	<u>Minimum Level</u>		<u>Maximum Level</u>		<u>Range (feet)</u>	<u>Average Level (feet)</u>	<u>Reading Type (and number of readings)</u>
	<u>Feet</u>	<u>Date</u>	<u>Feet</u>	<u>Date</u>			
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

<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	09/09/2024	9.3	Surface	67.5	8.1
			1.0	67.5	8.0
			2.0	67.3	8.0
			3.0	67.3	8.0
			4.0	67.3	7.9
			5.0	67.3	7.9
			6.0	67.3	7.9
			7.0	67.3	7.8
			8.0	67.3	7.8
			9.0	67.3	7.8

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	09/09/2024	Surface	3.8	8.80	N/A	Clear	N/A

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
First Set Date: 09/09/2024
Last Lift Date: 09/12/2024
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	22	7.33	0.33	1.00	6.11
BLB	Black Bullhead	1,277	425.67	4.56	23.42	83.00
BLC	Black Crappie	20	6.67	0.83	2.63	11.10
CAP	Common Carp	15	5.00	0.52	1.80	9.13
WAE	Walleye	140	46.67	3.22	7.67	15.33
WTS	White Sucker	2	0.67	0.75	2.00	5.88
YEB	Yellow Bullhead	1	0.33	0.33	1.17	3.58
YEP	Yellow Perch	37	12.33	3.00	8.94	22.50
		Total Fish/Set:	504.67	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%
BIB	Bigmouth Buffalo	13.80	4.60	0.63	N/A	N/A	N/A
BLB	Black Bullhead	220.21	73.40	0.25	0.21	0.38	0.60
BLC	Black Crappie	5.10	1.70	0.25	0.17	0.25	0.37
CAP	Common Carp	18.47	6.16	1.23	1.00	2.39	4.88
WAE	Walleye	154.98	51.66	1.11	0.88	1.37	1.90
WTS	White Sucker	3.27	1.09	1.63	1.44	1.87	2.20
YEB	Yellow Bullhead	0.31	0.10	0.31	0.45	0.70	0.93
YEP	Yellow Perch	14.10	4.70	0.38	0.14	0.24	0.36
		Total Pounds Fish/Set:	143.41	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: 09/09/2024
 Last Lift Date: 09/12/2024
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	40	3.33	0.22	0.48	1.45
BLB	Black Bullhead	1,380	115.00	1.33	14.73	78.13
BLC	Black Crappie	48	4.00	0.98	2.96	12.33
CAP	Common Carp	5	0.42	0.70	1.80	5.11
WAE	Walleye	46	3.83	0.31	0.73	1.69
YEB	Yellow Bullhead	1	0.08	0.50	1.60	4.05
YEP	Yellow Perch	1	0.08	0.25	0.81	2.62
Total Fish/Set:			126.75	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	19.75	1.65	0.49	1.25	3.18	5.07
BLB	Black Bullhead	1506.44	125.54	0.19	0.21	0.36	0.59
BLC	Black Crappie	15.88	1.32	0.26	0.23	0.34	0.49
CAP	Common Carp	4.45	0.37	0.89	2.33	4.10	5.64
WAE	Walleye	74.51	6.21	1.62	0.85	1.63	2.41
YEB	Yellow Bullhead	1.28	0.11	1.28	0.40	0.60	0.84
YEP	Yellow Perch	0.01	0.00	0.01	0.13	0.20	0.31
Total Pounds Fish/Set:			135.19	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 09/09/2024 and 09/12/2024)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	2	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-
5.00 - 5.49	-	10	-	-	-	-	-	-
5.50 - 5.99	-	188	-	-	-	-	-	-
6.00 - 6.49	-	276	1	-	-	-	-	-
6.50 - 6.99	-	518	2	-	-	-	-	-
7.00 - 7.49	-	211	10	-	-	-	-	-
7.50 - 7.99	2	33	6	-	-	-	-	7
8.00 - 8.49	-	18	1	-	-	-	1	14
8.50 - 8.99	2	-	-	-	-	-	-	3
9.00 - 9.49	8	2	-	-	-	-	-	2
9.50 - 9.99	-	-	-	-	-	-	-	-
10.00 - 10.49	2	2	-	-	-	-	-	1
10.50 - 10.99	2	-	-	-	10	-	-	7
11.00 - 11.49	2	-	-	-	10	-	-	3
11.50 - 11.99	4	-	-	1	18	-	-	-
12.00 - 12.99	-	5	-	5	39	-	-	-
13.00 - 13.99	-	10	-	7	29	-	-	-
14.00 - 14.99	-	1	-	2	10	2	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	4	-	-	-
17.00 - 17.99	-	-	-	-	4	-	-	-
18.00 - 18.99	-	-	-	-	4	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	3	-	-	-
24.00 - 24.99	-	-	-	-	1	-	-	-
25.00 - 25.99	-	-	-	-	1	-	-	-
26.00 - 26.99	-	-	-	-	4	-	-	-
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>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	22	1276	20	15	138	2	1	37
Min. Length	7.52	0.71	6.46	11.81	10.55	14.53	8.39	7.52
Max. Length	11.89	14.49	8.19	14.61	27.01	14.65	8.39	11.26
Mean Length	9.91	7.14	7.39	13.18	13.87	14.59	8.39	8.98
# Measured	22	184	20	15	138	2	1	37
No Lengths for	0	1093	0	0	2	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.

Length Frequency Distribution for TN

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

(Field work conducted between 09/09/2024 and 09/12/2024)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>WAE</u>	<u>YWAE</u>	<u>YEB</u>	<u>YYEP</u>
< 3.00	-	-	1	-	-	-	-	1
3.00 - 3.49	-	-	1	-	-	-	-	-
3.50 - 3.99	-	-	7	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-
5.00 - 5.49	-	4	-	-	-	-	-	-
5.50 - 5.99	2	14	-	-	-	-	-	-
6.00 - 6.49	-	35	-	-	-	-	-	-
6.50 - 6.99	2	25	9	-	-	1	-	-
7.00 - 7.49	-	7	10	-	-	1	-	-
7.50 - 7.99	-	2	7	-	-	-	-	-
8.00 - 8.49	5	-	4	-	-	-	-	-
8.50 - 8.99	6	-	1	-	1	-	-	-
9.00 - 9.49	10	-	-	-	-	-	-	-
9.50 - 9.99	2	-	-	-	-	-	-	-
10.00 - 10.49	8	-	-	-	-	-	-	-
10.50 - 10.99	6	-	-	-	4	-	-	-
11.00 - 11.49	-	-	-	2	3	-	-	-
11.50 - 11.99	-	-	-	1	7	-	-	-
12.00 - 12.99	-	1	1	2	8	-	-	-
13.00 - 13.99	-	2	1	-	10	-	1	-
14.00 - 14.99	-	-	-	-	1	-	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	2	-	-	-
19.00 - 19.99	-	-	-	-	1	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	1	-	-	-
24.00 - 24.99	-	-	-	-	1	-	-	-
25.00 - 25.99	-	-	-	-	2	-	-	-
26.00 - 26.99	-	-	-	-	1	-	-	-
27.00 - 27.99	-	-	-	-	1	-	-	-
28.00 - 28.99	-	-	-	-	1	-	-	-
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>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>WAE</u>	<u>YWAE</u>	<u>YEB</u>	<u>YYEP</u>
Total	41	90	42	5	44	2	1	1
Min. Length	5.98	5.20	2.91	11.42	8.70	6.93	13.74	2.80
Max. Length	10.94	13.43	13.54	12.91	28.78	7.01	13.74	2.80
Mean Length	9.29	6.73	6.91	11.98	14.91	6.97	13.74	2.80
# Measured	25	56	38	5	44	2	1	1
No Lengths for	15	1324	10	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.

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	21	0	N/A	0	N/A
	Snapping Turtle	1	1	9.69	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 09/13/2024), 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.

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REPORT OVERVIEW - FOR OFFICE USE ONLY

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Lake Name: Sarah
DOW Number: 51-0063-00

Survey Type: Standard Survey
Survey ID Date: 09/09/2024

Survey Status: Field Work Complete

The following 23 (of 34) report components are not included in this Lake Survey Report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History¹
4. Lake Inlets
5. Additional Inlet Information
6. Lake Outlets
7. Additional Outlet Information
8. Water Control Structure (Dam)
9. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations²
10. Resorts And Campgrounds
11. Fish Spawning Conditions
12. Erosion And Pollution
13. Fish Diseases And Parasites
14. Aquatic Vegetation And Shoalwater Substrates
15. Water Quality (Winter Observations) (added to revision 01/21/2010)
16. Laboratory Analysis Of Water Chemistry
17. Zooplankton Sampling (added to revision 20221130)
18. Catch Summary (Pre-1993 Format) (added to revision 20201001)
19. Length At Capture With Last Incremental Length^{*}
20. Back-Calculated Lengths
21. Age Class Frequency Distributions
22. Status Of Fishery And Field Notes
23. Survey Attachments (added to revision 20150622)

¹ 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.

² Effective 03/25/2014, the Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations report component was modified to be included in the Lake Survey report if it did not include any Watershed and Shoreline characteristics and only consisted of Riparian Landscape Observations.

^{*} 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 09/13/2024 may not be reflected in the Distribution tables until 09/14/2024.

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