



Minnesota Department of Natural Resources  
Fisheries Management



STANDARD LAKE SURVEY REPORT

**DRAFT VERSION - PRELIMINARY DATA (AS OF 06/16/2014)**

Lake Name: Sarah

Survey Type: Population Assessment

DOW Number: 51-0063-00

Survey ID Date: 06/02/2014

**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): 1093.00  
GIS Lake Area (acres): 1209.24  
DOW Lake Area (acres): 1176.00  
Littoral Area (acres): 1209.24  
Area in MN (acres): 1209.24  
Maximum Depth (feet): 11.0  
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:** 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:** 12/31/2013, 02/06/2013, 01/02/2013, 01/11/2012, 12/28/2010, 01/04/2010.  
**Natural Reproduction Check:** 10/07/2013, 10/11/2012, 10/20/2011, 09/21/2010.  
**External Management Survey:** 06/25/2008.

**Water Level History - Readings**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/05/2010	Normal	N/A	Above or below Benchmark
	06/05/2006	Normal	0.00	Above or below Benchmark
BM - 2	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	0.00	06/05/2006	0.00	06/05/2006	0.00	0.00	Above or below Benchmark (1)
BM - 2	-0.50	06/05/2006	-0.50	06/05/2006	0.00	-0.50	Above or below Benchmark (1)

**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	06/03/2014	9.4	Surface	71.2	8.4
			1.0	71.2	8.5
			2.0	71.2	8.5
			3.0	71.1	8.5
			4.0	70.9	8.4
			5.0	70.7	8.2
			6.0	70.2	7.7
			7.0	70.0	7.5
			8.0	70.0	7.5
			9.0	70.0	7.2

**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	06/03/2014	Surface	2.4	N/A	170	Brown Grn	Wave Action

**Net Catch Summary by Numbers for GN**

Standard gill net sets

Number of Sets: 4  
 First Set Date: 06/02/2014  
 Last Lift Date: 06/05/2014  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BLB	Black Bullhead	500	125.00	4.56	23.42	83.00
BRB	Brown Bullhead	2	0.50	0.60	1.80	7.67
WAE	Walleye	41	10.25	3.22	7.67	15.33
WTS	White Sucker	4	1.00	0.75	2.00	5.88
YEB	Yellow Bullhead	1	0.25	0.33	1.17	3.58
YEP	Yellow Perch	31	7.75	3.00	8.94	22.50
Total Fish/Set:			144.75	* 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 41*		
					25%	50%	75%
BLB	Black Bullhead	108.26	27.07	0.22	0.21	0.38	0.60
BRB	Brown Bullhead	0.71	0.18	0.36	0.38	0.63	1.07
WAE	Walleye	178.39	44.60	4.35	0.88	1.37	1.90
WTS	White Sucker	7.79	1.95	1.95	1.44	1.87	2.20
YEB	Yellow Bullhead	0.55	0.14	0.55	0.45	0.70	0.93
YEP	Yellow Perch	4.55	1.14	0.15	0.14	0.24	0.36
Total Pounds Fish/Set:			75.06	* Quartiles for Mean Weight			

**Net Catch Summary by Numbers for TN**

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

Number of Sets: 12  
 First Set Date: 06/02/2014  
 Last Lift Date: 06/05/2014  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BLB	Black Bullhead	1,691	140.92	1.33	14.73	78.13
BLC	Black Crappie	11	0.92	0.98	2.96	12.33
CAP	Common Carp	19	1.58	0.70	1.80	5.11
WHC	White Crappie	1	0.08	0.53	1.82	15.86
YEB	Yellow Bullhead	2	0.17	0.50	1.60	4.05
YEP	Yellow Perch	21	1.75	0.25	0.81	2.62
Total Fish/Set:			145.42	* 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 41*		
					25%	50%	75%
BLB	Black Bullhead	441.64	36.80	0.26	0.21	0.36	0.59
BLC	Black Crappie	11.23	0.94	1.02	0.23	0.34	0.49
CAP	Common Carp	154.13	12.84	8.11	2.33	4.10	5.64
WHC	White Crappie	1.39	0.12	1.39	0.21	0.34	0.53
YEB	Yellow Bullhead	2.20	0.18	1.10	0.40	0.60	0.84
YEP	Yellow Perch	3.40	0.28	0.16	0.13	0.20	0.31
Total Pounds Fish/Set:			51.17	* Quartiles for Mean Weight			

**Length Frequency Distribution For GN**

**Standard gill net sets**

(Field work conducted between 06/02/2014 and 06/05/2014)

	<u>BLB</u>	<u>BRB</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-
5.50 - 5.99	-	-	-	-	-	-
6.00 - 6.49	1	-	-	-	-	-
6.50 - 6.99	19	-	-	-	-	17
7.00 - 7.49	136	-	-	-	-	6
7.50 - 7.99	314	-	-	-	-	3
8.00 - 8.49	27	-	-	-	-	5
8.50 - 8.99	2	-	-	-	-	-
9.00 - 9.49	-	1	-	-	-	-
9.50 - 9.99	-	1	-	-	-	-
10.00 - 10.49	-	-	-	-	1	-
10.50 - 10.99	-	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-
12.00 - 12.99	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-
14.00 - 14.99	-	-	1	-	-	-
15.00 - 15.99	1	-	-	1	-	-
16.00 - 16.99	-	-	-	3	-	-
17.00 - 17.99	-	-	-	-	-	-
18.00 - 18.99	-	-	1	-	-	-
19.00 - 19.99	-	-	2	-	-	-
20.00 - 20.99	-	-	4	-	-	-
21.00 - 21.99	-	-	4	-	-	-
22.00 - 22.99	-	-	15	-	-	-
23.00 - 23.99	-	-	6	-	-	-
24.00 - 24.99	-	-	5	-	-	-
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>BRB</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	500	2	41	4	1	31
Min. Length	6.42	9.09	14.88	15.83	10.04	6.50
Max. Length	15.20	9.61	27.80	16.54	10.04	8.27
Mean Length	7.72	9.35	22.53	16.15	10.04	7.12
# Measured	119	2	41	4	1	24
No Lengths for	381	0	0	0	0	7

**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 06/02/2014 and 06/05/2014)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-
4.00 - 4.49	6	2	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-
5.50 - 5.99	-	-	-	-	-	-
6.00 - 6.49	-	-	-	-	-	-
6.50 - 6.99	15	-	-	-	-	4
7.00 - 7.49	273	-	-	-	-	8
7.50 - 7.99	997	-	-	-	-	-
8.00 - 8.49	345	-	-	-	-	6
8.50 - 8.99	11	-	-	-	-	-
9.00 - 9.49	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-
10.00 - 10.49	-	-	-	-	-	-
10.50 - 10.99	-	-	-	-	1	-
11.00 - 11.49	-	-	-	-	-	-
11.50 - 11.99	6	1	-	-	-	-
12.00 - 12.99	-	7	-	1	-	-
13.00 - 13.99	3	1	-	-	1	-
14.00 - 14.99	34	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-
19.00 - 19.99	-	-	1	-	-	-
20.00 - 20.99	-	-	-	-	-	-
21.00 - 21.99	-	-	2	-	-	-
22.00 - 22.99	-	-	2	-	-	-
23.00 - 23.99	-	-	2	-	-	-
24.00 - 24.99	-	-	-	-	-	-
25.00 - 25.99	-	-	1	-	-	-
26.00 - 26.99	-	-	-	-	-	-
27.00 - 27.99	-	-	2	-	-	-
28.00 - 28.99	-	-	5	-	-	-
29.00 - 29.99	-	-	2	-	-	-
30.00 - 30.99	-	-	1	-	-	-
31.00 - 31.99	-	-	1	-	-	-
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>CAP</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
Total	1690	11	19	1	2	18
Min. Length	4.17	4.06	19.76	12.87	10.91	6.61
Max. Length	14.65	13.03	31.46	12.87	13.86	8.46
Mean Length	7.87	10.97	26.25	12.87	12.38	7.52
# Measured	279	11	19	1	2	9
No Lengths for	1412	0	0	0	0	12

**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

**Approval Dates And Notices**

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

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

**This DRAFT VERSION of the Standard Lake Survey Report contains preliminary data (as of 06/16/2014), 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

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

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**Lake Name: Sarah**

**Survey Type: Population Assessment**

**DOW Number: 51-0063-00**

**Survey ID Date: 06/02/2014**

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**Survey Status:** Field Work Complete

The following 21 (of 31) report components are not included in this report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History<sup>1</sup>
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 Observations<sup>2</sup>
10. Resorts And Campgrounds
11. Fish Spawning Conditions
12. Erosion And Pollution
13. Fish Diseases And Parasites
14. Aquatic Vegetation And Shoalwater Substrates
15. Laboratory Analysis Of Water Chemistry
16. Length At Capture With Last Incremental Length\*
17. Back-Calculated Lengths
18. Age Class Frequency Distributions
19. Status Of Fishery And Field Notes
20. Other Species (added to revision 03/24/2009)
21. Water Quality (Winter Observations) (added to revision 01/21/2010)

<sup>1</sup> 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.

<sup>2</sup> Effective 03/25/2014, the Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations report component was modified to be included in the Standard 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 06/16/2014 may not be reflected in the Distribution tables until 06/17/2014.**