

Lake Name: Okabena
DOW Number: 53-0028-00

Survey Type: Standard Survey
Survey ID Date: 08/15/2022

Lake Identification

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

DNR Sounding Map Number: C0476
Alternate Lake Class ID: N/A

Lake Location

Primary County: Nobles

Nearest Town: Worthington

Legal Descriptions

Lake Center: Township - 102N Range - 40W Section - 27
PLS Section Lake Center: 10204027

All Legal Descriptions:

Nobles County: Township - 102N Range - 40W Sections - 22, 23, 26, 27, 28

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Population Assessment dated 08/22/1994)

Station ID	Ownership	Public Use	Type	Location / Comments
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(Data excludes records where public use is not designated or is designated "No Public Use")

Lake Characteristics

Lake Area (planimetered acres): 751.50
GIS Lake Area (acres): 776.05
DOW Lake Area (acres): 785.00
Littoral Area (acres): 751.50
Area in MN (acres): 776.05
Maximum Depth (feet): 16.0
Mean Depth (feet): 8.0

GIS Shoreline Length (miles): 6.50
Maximum Fetch (miles): 1.90
Fetch Orientation (degrees): 45
USGS Quad Map Number: X07d
USGS Quad 24K GIS Index: 4714

Watershed Characteristics

Major Watershed

Name: Little Sioux River
Watershed Number: 84
Watershed size (acres): 205,753

Minor Watershed

Name: Okabena L
Watershed Number: 1
Watershed size (acres): 4,908

Surveys and Investigations

Initial Survey: 07/29/1986.
Re-Survey: 08/23/2004, 08/24/1998, 06/07/1982.
Population Assessment: 08/18/2014, 08/23/2010, 08/25/2008, 08/21/2006, 08/19/2002, 08/21/2000, 08/19/1996, 08/22/1994, 08/27/1990.
Special Assessment: 09/20/1999, 10/10/1996, 08/24/1993, 06/21/1993, 08/25/1992.
Dissolved Oxygen Check: 02/10/2016, 02/25/2015, 01/02/2014, 02/07/2013, 01/07/2013, 02/17/2012, 01/26/2012, 12/28/2010, 01/11/2010.
External Management Survey: 06/24/2008.
Standard Survey: 08/15/2022, 08/13/2018.
Targeted Survey: 09/28/2021, 06/30/2021, 06/14/2021, 09/15/2020, 02/04/2020, 09/11/2019, 02/21/2019, 09/28/2018, 07/02/2018, 01/19/2018.

Current Water Level

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	08/16/2022	Normal	-2.10	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

<u>Station ID</u>	<u>Location Description</u>
BM - 1	west most culvert. top center to water surface.

Water Level History - Readings

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	08/16/2022	Normal	-2.10	Above or below Benchmark
	08/14/2018	Normal	-2.80	Above or below Benchmark
	08/18/2014	Normal	-3.00	Above or below Benchmark
	08/25/2010	Normal	-2.90	Above or below Benchmark
	08/27/2008	N/A	-3.10	Above or below Benchmark
	08/21/2008	Normal	N/A	Above or below Benchmark
	08/21/2006	Normal	-2.80	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	-3.10	08/27/2008	-2.10	08/16/2022	1.00	-2.78	Above or below Benchmark (6)

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	08/16/2022	11.2	Surface	73.0	6.6
			1.0	73.0	6.6
			2.0	72.5	6.3
			3.0	72.1	6.0
			4.0	72.1	6.0
			5.0	71.6	6.0
			6.0	72.0	6.0
			7.0	72.0	6.0
			8.0	72.0	6.1
			9.0	71.8	6.1
			10.0	71.8	6.0

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	08/16/2022	Surface	0.9	8.27	240	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
First Set Date: 08/15/2022
Last Lift Date: 08/18/2022
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	8	2.67	0.33	1.00	6.11
BLB	Black Bullhead	6	2.00	4.56	23.42	83.00
CCF	Channel Catfish	8	2.67	N/A	N/A	N/A
CAP	Common Carp	1	0.33	0.52	1.80	9.13
FRD	Freshwater Drum	67	22.33	3.64	10.25	24.24
NOP	Northern Pike	2	0.67	1.20	3.50	7.79
WAE	Walleye	50	16.67	3.22	7.67	15.33
WTS	White Sucker	11	3.67	0.75	2.00	5.88
YEP	Yellow Perch	12	4.00	3.00	8.94	22.50
Total Fish/Set:			55.00	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	41.60	13.87	5.94	N/A	N/A	N/A
BLB	Black Bullhead	7.10	2.37	1.18	0.21	0.38	0.60
CCF	Channel Catfish	29.00	9.67	3.62	N/A	N/A	N/A
CAP	Common Carp	4.78	1.59	4.78	1.00	2.39	4.88
FRD	Freshwater Drum	69.25	23.08	1.05	0.25	0.45	1.00
NOP	Northern Pike	9.15	3.05	4.58	1.53	2.12	2.95
WAE	Walleye	58.92	19.64	1.18	0.88	1.37	1.90
WTS	White Sucker	16.84	5.61	1.53	1.44	1.87	2.20
YEP	Yellow Perch	5.62	1.87	0.47	0.14	0.24	0.36
Total Pounds Fish/Set:			80.75	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: 08/15/2022
 Last Lift Date: 08/18/2022
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	22	1.83	0.22	0.48	1.45
BLB	Black Bullhead	11	0.92	1.33	14.73	78.13
BLC	Black Crappie	16	1.33	0.98	2.96	12.33
BLG	Bluegill	12	1.00	1.05	3.00	14.93
CCF	Channel Catfish	5	0.42	N/A	N/A	N/A
CAP	Common Carp	21	1.75	0.70	1.80	5.11
FRD	Freshwater Drum	10	0.83	0.36	0.95	4.00
GOS	Golden Shiner	1	0.08	0.17	0.41	1.00
LMB	Largemouth Bass	1	0.08	0.13	0.40	0.75
NOP	Northern Pike	11	0.92	N/A	N/A	N/A
PMK	Pumpkinseed	6	0.50	0.43	1.10	4.47
WAE	Walleye	51	4.25	0.31	0.73	1.69
WHC	White Crappie	13	1.08	0.53	1.82	15.86
WTS	White Sucker	47	3.92	0.25	0.50	1.29
YEB	Yellow Bullhead	1	0.08	0.50	1.60	4.05
Total Fish/Set:			19.00	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	141.12	11.76	6.41	1.25	3.18	5.07
BLB	Black Bullhead	13.90	1.16	1.26	0.21	0.36	0.59
BLC	Black Crappie	7.96	0.66	0.50	0.23	0.34	0.49
BLG	Bluegill	2.42	0.20	0.20	0.16	0.25	0.38
CCF	Channel Catfish	27.57	2.30	5.51	N/A	N/A	N/A
CAP	Common Carp	139.49	11.62	6.64	2.33	4.10	5.64
FRD	Freshwater Drum	11.62	0.97	1.16	0.49	0.85	1.74
GOS	Golden Shiner	0.06	0.00	0.06	0.06	0.10	0.10
LMB	Largemouth Bass	0.97	0.08	0.97	0.41	1.00	1.54
NOP	Northern Pike	41.19	3.43	3.74	N/A	N/A	N/A
PMK	Pumpkinseed	1.53	0.13	0.26	0.10	0.15	0.26
WAE	Walleye	78.56	6.55	1.54	0.85	1.63	2.41
WHC	White Crappie	6.73	0.56	0.52	0.21	0.34	0.53
WTS	White Sucker	96.77	8.06	2.06	1.35	1.97	2.62
YEB	Yellow Bullhead	0.88	0.07	0.88	0.40	0.60	0.84
Total Pounds Fish/Set:			47.56	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 08/15/2022 and 08/18/2022)

	<u>BIB</u>	<u>BLB</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</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	-	-	-	-	2	-	-	-	-
5.50 - 5.99	-	-	-	-	2	-	-	-	-
6.00 - 6.49	-	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	-	-	-	-	-	-	-
7.00 - 7.49	-	-	-	-	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-	-	-	-	1
8.00 - 8.49	-	-	-	-	-	-	-	-	1
8.50 - 8.99	-	-	-	-	-	-	-	-	1
9.00 - 9.49	-	-	-	-	-	-	-	-	2
9.50 - 9.99	-	-	-	-	-	-	-	-	2
10.00 - 10.49	-	1	-	-	-	-	-	-	3
10.50 - 10.99	-	-	-	-	-	-	1	-	2
11.00 - 11.49	-	-	-	-	-	-	2	-	-
11.50 - 11.99	-	-	-	-	3	-	3	1	-
12.00 - 12.99	-	2	-	-	23	-	1	1	-
13.00 - 13.99	-	2	-	1	23	-	11	1	-
14.00 - 14.99	-	1	-	-	6	-	9	2	-
15.00 - 15.99	-	-	-	-	5	-	9	2	-
16.00 - 16.99	-	-	-	-	2	-	6	3	-
17.00 - 17.99	1	-	-	1	2	-	2	-	-
18.00 - 18.99	-	-	-	-	-	-	1	-	-
19.00 - 19.99	-	-	-	1	-	-	-	1	-
20.00 - 20.99	1	-	-	1	-	-	2	-	-
21.00 - 21.99	-	-	1	2	-	-	-	-	-
22.00 - 22.99	4	-	-	-	-	-	1	-	-
23.00 - 23.99	1	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	1	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	1	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	1	-	-	-	-	-
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>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	7	6	1	8	68	2	48	11	12
Min. Length	17.01	10.28	21.73	13.07	5.00	26.73	10.75	11.89	7.52
Max. Length	23.31	14.21	21.73	28.15	17.13	29.25	22.87	19.33	10.87
Mean Length	21.54	12.62	21.73	20.86	13.28	27.99	14.88	15.15	9.58
# Measured	7	6	1	8	65	2	48	11	12
No Lengths for	1	0	0	0	2	0	2	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 08/15/2022 and 08/18/2022)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
3.50 - 3.99	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
5.00 - 5.49	-	-	-	1	-	-	2	1	-	-	1	-	-	-	-
5.50 - 5.99	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
6.00 - 6.49	-	-	-	4	-	-	-	-	-	-	1	-	-	-	-
6.50 - 6.99	-	-	1	3	-	-	-	-	-	-	2	-	-	-	-
7.00 - 7.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.50 - 7.99	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
8.00 - 8.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.50 - 8.99	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-
9.00 - 9.49	-	-	7	-	-	-	-	-	-	-	-	-	7	-	-
9.50 - 9.99	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
10.00 - 10.49	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
10.50 - 10.99	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.50 - 11.99	-	1	-	-	-	-	-	-	1	-	-	1	-	-	1
12.00 - 12.99	-	5	1	-	1	-	2	-	-	-	-	-	-	1	-
13.00 - 13.99	-	4	-	-	1	-	2	-	-	-	-	2	-	1	-
14.00 - 14.99	-	1	-	-	3	-	-	-	-	-	-	13	-	3	-
15.00 - 15.99	-	-	-	-	-	-	3	-	-	-	-	16	-	8	-
16.00 - 16.99	5	-	-	-	-	-	-	-	-	-	-	6	-	16	-
17.00 - 17.99	4	-	-	-	1	-	-	-	-	-	-	3	-	6	-
18.00 - 18.99	1	-	-	-	-	-	1	-	-	-	-	-	-	6	-
19.00 - 19.99	-	-	-	-	-	-	-	-	-	1	-	1	-	5	-
20.00 - 20.99	1	-	-	-	1	1	-	-	-	-	-	-	-	1	-
21.00 - 21.99	3	-	-	-	-	-	-	-	-	2	-	3	-	-	-
22.00 - 22.99	2	-	-	-	1	1	-	-	-	-	-	3	-	-	-
23.00 - 23.99	2	-	-	-	3	2	-	-	-	-	-	-	-	-	-
24.00 - 24.99	1	-	-	-	3	-	-	-	-	1	-	1	-	-	-
25.00 - 25.99	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-
26.00 - 26.99	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
28.00 - 28.99	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-
30.00 - 30.99	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>
Total	22	11	17	12	21	5	10	1	1	11	6	51	13	47	1
Min. Length	16.69	11.97	6.85	3.66	12.72	20.98	5.28	5.35	11.65	19.53	4.96	10.67	3.23	12.20	11.69
Max. Length	35.24	14.02	12.56	6.93	30.63	27.40	18.70	5.35	11.65	32.72	7.56	24.45	10.91	20.51	11.69
Mean Length	20.99	13.00	9.11	5.83	22.68	23.70	12.76	5.35	11.65	26.02	6.20	16.08	9.24	16.84	11.69
# Measured	22	11	15	12	21	5	10	1	1	11	6	51	13	47	1
No Lengths for	0	0	1	0	0	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

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	Spiney Softshell Turtle	1	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 08/19/2022), 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.

Lake Survey Report revision: 20210824-RJE. Data Date: 08/19/2022 at 7:18 am .

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REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Okabena

Survey Type: Standard Survey

DOW Number: 53-0028-00

Survey ID Date: 08/15/2022

Survey Status: Active

The following 20 (of 33) report components are not included in this Lake Survey Report:

1. Water Level History¹
2. Lake Inlets
3. Additional Inlet Information
4. Lake Outlets
5. Additional Outlet Information
6. Water Control Structure (Dam)
7. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations²
8. Resorts And Campgrounds
9. Fish Spawning Conditions
10. Erosion And Pollution
11. Fish Diseases And Parasites
12. Aquatic Vegetation And Shoalwater Substrates
13. Water Quality (Winter Observations) (added to revision 01/21/2010)
14. Laboratory Analysis Of Water Chemistry
15. Catch Summary (Pre-1993 Format) (added to revision 20201001)
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. 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 before noon on 08/19/2022 may not be reflected in the Distribution tables until after 12:30 pm on 08/19/2022.

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