



# Minnesota Department of Natural Resources

## Fisheries Management



### STANDARD LAKE SURVEY REPORT

**DRAFT VERSION - PRELIMINARY DATA (AS OF 08/22/2014)**

Lake Name: Okabena

Survey Type: Population Assessment

DOW Number: 53-0028-00

Survey ID Date: 08/18/2014

#### 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 Shoreline Length (miles): 6.50
GIS Lake Area (acres): 776.05	Maximum Fetch (miles): 1.90
DOW Lake Area (acres): 785.00	Fetch Orientation (degrees): 45
Littoral Area (acres): 751.50	USGS Quad Map Number: X07d
Area in MN (acres): 776.05	USGS Quad 24K GIS Index: 4714
Maximum Depth (feet): 16.0	
Mean Depth (feet): 8.0	

#### 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: 08/23/2010, 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: 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.

**Current Water Level**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/18/2014	Normal	-3.00	Above or below Benchmark

**Benchmark and Gauge Descriptions / Locations**

Station ID	Location Description
BM - 1	N/A

**Water Level History - Readings**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	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**

Station ID	Minimum Level		Maximum Level		Range (feet)	Average Level (feet)	Reading Type (and number of readings)
	Feet	Date	Feet	Date			
BM - 1	-3.10	08/27/2008	-2.80	08/21/2006	0.30	-2.95	Above or below Benchmark (4)

**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	08/18/2014	11.3	Surface	77.5	8.0
			2.0	77.5	8.1
			4.0	77.4	7.6
			6.0	77.4	7.2
			8.0	77.0	7.0
			10.0	76.6	6.1
			11.0	75.6	3.5

**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	08/18/2014	Surface	0.9	8.20	170	Green	Algae

### Net Catch Summary by Numbers for GN

#### Standard gill net sets

Number of Sets: 3  
First Set Date: 08/18/2014  
Last Lift Date: 08/21/2014  
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BIB	Bigmouth Buffalo	68	22.67	0.33	1.00	6.11
BLB	Black Bullhead	1	0.33	4.56	23.42	83.00
BLC	Black Crappie	12	4.00	0.83	2.63	11.10
CCF	Channel Catfish	60	20.00	N/A	N/A	N/A
CAP	Common Carp	1	0.33	0.52	1.80	9.13
FRD	Freshwater Drum	69	23.00	3.64	10.25	24.24
NOP	Northern Pike	4	1.33	1.20	3.50	7.79
WAE	Walleye	37	12.33	3.22	7.67	15.33
WTS	White Sucker	1	0.33	0.75	2.00	5.88
YEP	Yellow Perch	69	23.00	3.00	8.94	22.50
Total Fish/Set:			107.33	* 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%
BIB	Bigmouth Buffalo	32.81	10.94	0.48	N/A	N/A	N/A
BLB	Black Bullhead	0.25	0.08	0.25	0.21	0.38	0.60
BLC	Black Crappie	2.19	0.73	0.18	0.17	0.25	0.37
CCF	Channel Catfish	160.38	53.46	2.67	N/A	N/A	N/A
CAP	Common Carp	1.32	0.44	1.32	1.00	2.39	4.88
FRD	Freshwater Drum	31.24	10.41	0.45	0.25	0.45	1.00
NOP	Northern Pike	10.06	3.35	2.51	1.53	2.12	2.95
WAE	Walleye	32.62	10.87	0.88	0.88	1.37	1.90
WTS	White Sucker	2.32	0.77	2.32	1.44	1.87	2.20
YEP	Yellow Perch	15.28	5.09	0.22	0.14	0.24	0.36
Total Pounds Fish/Set:			96.15	* 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: 08/18/2014  
 Last Lift Date: 08/21/2014  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BIB	Bigmouth Buffalo	138	11.50	0.22	0.48	1.45
BLB	Black Bullhead	15	1.25	1.33	14.73	78.13
BLC	Black Crappie	440	36.67	0.98	2.96	12.33
BLG	Bluegill	5	0.42	1.05	3.00	14.93
CCF	Channel Catfish	23	1.92	N/A	N/A	N/A
CAP	Common Carp	192	16.00	0.70	1.80	5.11
FRD	Freshwater Drum	16	1.33	0.36	0.95	4.00
GOS	Golden Shiner	2	0.17	0.17	0.41	1.00
NOP	Northern Pike	2	0.17	N/A	N/A	N/A
PMK	Pumpkinseed	8	0.67	0.43	1.10	4.47
WAE	Walleye	43	3.58	0.31	0.73	1.69
WHC	White Crappie	12	1.00	0.53	1.82	15.86
WTS	White Sucker	10	0.83	0.25	0.50	1.29
YEP	Yellow Perch	32	2.67	0.25	0.81	2.62
Total Fish/Set:			78.17	* 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	Mean	Quartiles for Lake Class 41*		
		(Pounds)	Per Set	Weight	25%	50%	75%
BIB	Bigmouth Buffalo	75.07	6.26	0.54	1.25	3.18	5.07
BLB	Black Bullhead	5.30	0.44	0.35	0.21	0.36	0.59
BLC	Black Crappie	79.63	6.64	0.18	0.23	0.34	0.49
BLG	Bluegill	1.89	0.16	0.38	0.16	0.25	0.38
CCF	Channel Catfish	68.53	5.71	2.98	N/A	N/A	N/A
CAP	Common Carp	236.96	19.75	1.23	2.33	4.10	5.64
FRD	Freshwater Drum	6.39	0.53	0.40	0.49	0.85	1.74
GOS	Golden Shiner	0.22	0.02	0.11	0.06	0.10	0.10
NOP	Northern Pike	5.32	0.44	2.66	N/A	N/A	N/A
PMK	Pumpkinseed	2.10	0.18	0.26	0.10	0.15	0.26
WAE	Walleye	30.78	2.57	0.72	0.85	1.63	2.41
WHC	White Crappie	2.53	0.21	0.21	0.21	0.34	0.53
WTS	White Sucker	22.91	1.91	2.29	1.35	1.97	2.62
YEP	Yellow Perch	3.95	0.33	0.12	0.13	0.20	0.31
Total Pounds Fish/Set:			45.13	* Quartiles for Mean Weight			

### Length Frequency Distribution For GN

#### Standard gill net sets

(Field work conducted between 08/18/2014 and 08/21/2014)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</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	-	-	-	-	-	-	-	-	-	-
5.50 - 5.99	-	-	-	-	-	-	-	-	-	-
6.00 - 6.49	-	-	-	-	-	-	-	-	-	1
6.50 - 6.99	-	-	8	-	-	-	-	-	-	5
7.00 - 7.49	-	-	4	-	-	-	-	-	-	27
7.50 - 7.99	3	1	-	-	-	-	-	1	-	26
8.00 - 8.49	5	-	-	-	-	-	-	6	-	6
8.50 - 8.99	8	-	-	-	-	-	-	8	-	1
9.00 - 9.49	21	-	-	-	-	12	-	4	-	2
9.50 - 9.99	18	-	-	-	-	41	-	-	-	1
10.00 - 10.49	9	-	-	-	-	14	-	-	-	-
10.50 - 10.99	3	-	-	-	-	-	-	1	-	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	-	-	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-	3	-	-
14.00 - 14.99	-	-	-	1	-	1	-	3	-	-
15.00 - 15.99	-	-	-	-	-	1	-	1	-	-
16.00 - 16.99	-	-	-	-	3	-	-	-	-	-
17.00 - 17.99	-	-	-	-	1	-	1	5	1	-
18.00 - 18.99	-	-	-	-	9	-	-	1	-	-
19.00 - 19.99	-	-	-	-	13	-	-	1	-	-
20.00 - 20.99	-	-	-	-	14	-	-	1	-	-
21.00 - 21.99	-	-	-	-	13	-	-	1	-	-
22.00 - 22.99	-	-	-	-	5	-	1	1	-	-
23.00 - 23.99	-	-	-	-	2	-	1	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	1	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-
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>CCF</u>	<u>FRD</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	67	1	12	1	60	69	4	37	1	69
Min. Length	7.60	7.68	6.50	14.17	16.14	9.09	17.56	7.99	17.44	6.14
Max. Length	10.87	7.68	7.48	14.17	23.15	15.20	25.00	22.36	17.44	9.92
Mean Length	9.37	7.68	6.88	14.17	20.20	9.93	22.30	12.99	17.44	7.61
# Measured	65	1	11	1	60	69	4	33	1	57
No Lengths for	3	0	1	0	0	0	0	4	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

**Length Frequency Distribution For TN****Standard 3/4-in mesh, double frame trap net sets**

(Field work conducted between 08/18/2014 and 08/21/2014)

	<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>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>WHC</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	-	-	-	-	-	-	-	-	-	-	-	-	-	8
5.50 - 5.99	-	1	13	-	-	-	-	-	-	2	-	-	-	2
6.00 - 6.49	-	1	83	-	-	-	-	1	-	1	-	-	-	6
6.50 - 6.99	-	3	199	2	-	-	-	1	-	3	-	1	-	7
7.00 - 7.49	-	1	121	-	-	-	-	-	-	1	1	5	-	5
7.50 - 7.99	-	1	21	3	-	-	-	-	-	-	6	5	-	4
8.00 - 8.49	2	2	-	-	-	-	-	-	-	-	10	1	-	-
8.50 - 8.99	19	3	-	-	-	-	-	-	-	1	8	-	-	-
9.00 - 9.49	33	-	-	-	-	-	6	-	-	-	5	-	-	-
9.50 - 9.99	42	-	-	-	1	-	9	-	-	-	-	-	-	-
10.00 - 10.49	26	-	-	-	4	-	1	-	-	-	2	-	-	-
10.50 - 10.99	14	-	2	-	8	-	-	-	-	-	-	-	-	-
11.00 - 11.49	2	-	-	-	18	-	-	-	-	-	-	-	1	-
11.50 - 11.99	-	2	-	-	35	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	1	-	-	65	-	-	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	38	-	-	-	-	-	1	-	-	-
14.00 - 14.99	-	-	-	-	11	-	-	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	1	-	-	-	-	-	2	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-	-	-	3	-
17.00 - 17.99	-	-	-	-	-	-	-	-	-	-	1	-	1	-
18.00 - 18.99	-	-	-	-	1	1	-	-	-	-	1	-	1	-
19.00 - 19.99	-	-	-	-	1	5	-	-	-	-	2	-	4	-
20.00 - 20.99	-	-	-	-	-	6	-	-	-	-	2	-	-	-
21.00 - 21.99	-	-	-	-	-	7	-	-	1	-	-	-	-	-
22.00 - 22.99	-	-	-	-	1	2	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	2	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	4	-	-	-	1	-	-	-	-	-
26.00 - 26.99	-	-	-	-	1	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	1	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	1	-	-	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>138</b>	<b>15</b>	<b>439</b>	<b>5</b>	<b>191</b>	<b>23</b>	<b>16</b>	<b>2</b>	<b>2</b>	<b>8</b>	<b>42</b>	<b>12</b>	<b>10</b>	<b>32</b>
Min. Length	8.11	5.98	5.91	6.77	9.88	18.03	9.13	6.18	21.61	5.71	7.36	6.93	11.22	5.24
Max. Length	11.02	12.17	10.98	7.95	28.39	23.50	10.43	6.65	25.35	8.70	28.39	8.15	19.76	7.91
Mean Length	9.64	8.43	6.82	7.39	13.08	20.86	9.64	6.42	23.48	6.71	11.01	7.53	17.50	6.38
# Measured	95	15	250	5	170	23	16	2	2	8	42	12	10	31
No Lengths for	43	0	190	0	22	0	0	0	0	0	1	0	0	1

**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	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.

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**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 08/22/2014), 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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Standard Lake Survey Report revision: 03/25/2014-RJE. Data Date: 08/22/2014 at 7:03 am .



## 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: Okabena**

**Survey Type: Population Assessment**

**DOW Number: 53-0028-00**

**Survey ID Date: 08/18/2014**

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**Survey Status:** Proposed

The following 18 (of 31) report components are not included in this report:

1. Water Level History<sup>1</sup>
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 Observations<sup>2</sup>
8. Resorts And Campgrounds
9. Fish Spawning Conditions
10. Erosion And Pollution
11. Fish Diseases And Parasites
12. Aquatic Vegetation And Shoalwater Substrates
13. Laboratory Analysis Of Water Chemistry
14. Length At Capture With Last Incremental Length\*
15. Back-Calculated Lengths
16. Age Class Frequency Distributions
17. Status Of Fishery And Field Notes
18. 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 before noon on 08/22/2014 may not be reflected in the Distribution tables until after 12:30 pm on 08/22/2014.**