



Minnesota Department of Natural Resources Fisheries Management



STANDARD LAKE SURVEY REPORT

DRAFT VERSION - PRELIMINARY DATA (AS OF 08/28/2014)

Lake Name: Mountain

Survey Type: Population Assessment

DOW Number: 17-0003-00

Survey ID Date: 08/25/2014

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 43

DNR Sounding Map Number: C2884
Alternate Lake Class ID: N/A

Lake Location

Primary County: Cottonwood

Nearest Town: Mountain Lake

Legal Descriptions

Lake Center: Township - 106N Range - 34W Section - 32
PLS Section Lake Center: 10603432

All Legal Descriptions:

Cottonwood County: Township - 106N Range - 34W Sections - 28, 29, 31, 32, 33

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Population Assessment dated 06/06/1994)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	LOCATED ON EAST SIDE OF LAKE.
AC - 2	DNR	Open to Public use	Earthen	LOCATED ON WEST SIDE OF LAKE; ADJACENT TO WILDLIFE MANAGEMENT AREA.

Lake Characteristics

Lake Area (planimetered acres): 241.00	GIS Shoreline Length (miles): 4.37
GIS Lake Area (acres): 219.79	Maximum Fetch (miles): 1.31
DOW Lake Area (acres): 241.00	Fetch Orientation (degrees): 270
Littoral Area (acres): 219.79	USGS Quad Map Number: W10b
Area in MN (acres): 219.79	USGS Quad 24K GIS Index: 4419
Maximum Depth (feet): 8.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Watonwan River
Watershed Number: 31
Watershed size (acres): 558,963

Minor Watershed

Name: From Mountain L
Watershed Number: 58
Watershed size (acres): 7,845

Surveys And Investigations

Re-Survey: 08/19/2002, 06/02/1997, 06/04/1985.
Population Assessment: 08/25/2014, 08/30/2010, 08/30/2004, 06/06/1994, 06/04/1990.
Special Assessment: 07/24/2014, 07/02/2013, 06/03/2009, 05/16/2000.
Dissolved Oxygen Check: 01/03/2014, 01/08/2013, 12/28/2012, 02/14/2012, 12/29/2010, 01/12/2010.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/25/2014	High	-2.00	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	08/25/2014	High	-2.00	Above or below Benchmark
BM - 2	09/01/2010	Low	-2.50	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	-2.00	08/25/2014	-2.00	08/25/2014	0.00	-2.00	Above or below Benchmark (1)
BM - 2	-2.50	09/01/2010	-2.50	09/01/2010	0.00	-2.50	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)
				Temperature	Dissolved Oxygen	
WQ - 1	08/25/2014	6.4	Surface	78.4	8.8	
			1.0	78.6	8.8	
			2.0	78.6	8.9	
			3.0	78.6	8.8	
			4.0	78.6	8.8	
			5.0	78.6	8.6	
			6.0	78.3	5.7	

Field Measurements Of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	
						Water Color	Color Cause
WQ - 1	08/25/2014	Surface	3.8	8.70	136	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 1
 First Set Date: 08/25/2014
 Last Lift Date: 08/26/2014
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	53	53.00	30.34	75.58	150.62
BLG	Bluegill	1	1.00	N/A	N/A	N/A
CAP	Common Carp	9	9.00	1.00	3.33	13.75
LMB	Largemouth Bass	3	3.00	0.20	0.50	1.50
NOP	Northern Pike	1	1.00	1.08	3.00	8.00
PMK	Pumpkinseed	1	1.00	N/A	N/A	N/A
WAE	Walleye	21	21.00	2.28	6.83	18.06
YEB	Yellow Bullhead	29	29.00	0.50	1.50	3.50
YEP	Yellow Perch	36	36.00	2.65	8.00	25.00
Total Fish/Set:			154.00	* 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 43*		
					25%	50%	75%
BLB	Black Bullhead	38.88	38.88	0.73	0.17	0.26	0.39
BLG	Bluegill	0.40	0.40	0.40	N/A	N/A	N/A
CAP	Common Carp	30.11	30.11	3.35	0.81	1.98	3.70
LMB	Largemouth Bass	1.44	1.44	0.48	0.60	1.18	1.37
NOP	Northern Pike	3.09	3.09	3.09	1.82	2.50	3.35
PMK	Pumpkinseed	0.11	0.11	0.11	N/A	N/A	N/A
WAE	Walleye	24.97	24.97	1.19	1.01	1.53	2.30
YEB	Yellow Bullhead	18.33	18.33	0.63	0.31	0.53	0.73
YEP	Yellow Perch	13.85	13.85	0.38	0.13	0.21	0.31
Total Pounds Fish/Set:			131.18	* Quartiles for Mean Weight			

Net Catch Summary by Numbers for TN

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

Number of Sets: 9
 First Set Date: 08/25/2014
 Last Lift Date: 08/28/2014
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	3	0.33	11.50	42.00	132.61
BLC	Black Crappie	6	0.67	1.17	4.88	20.50
BLG	Bluegill	105	11.67	1.17	3.89	20.00
CAP	Common Carp	31	3.44	1.00	2.44	5.51
HSF	Hybrid Sunfish	3	0.33	N/A	N/A	N/A
LMB	Largemouth Bass	2	0.22	0.23	0.38	0.67
NOP	Northern Pike	1	0.11	N/A	N/A	N/A
PMK	Pumpkinseed	22	2.44	0.26	1.35	4.92
WAE	Walleye	5	0.56	0.50	1.33	2.95
YEB	Yellow Bullhead	35	3.89	0.50	1.13	2.50
YEP	Yellow Perch	23	2.56	0.33	1.37	3.76
Total Fish/Set:			26.22	* 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 43*		
					25%	50%	75%
BLB	Black Bullhead	1.08	0.12	0.36	0.18	0.28	0.40
BLC	Black Crappie	0.15	0.02	0.02	0.22	0.34	0.50
BLG	Bluegill	29.02	3.22	0.28	0.13	0.24	0.39
CAP	Common Carp	99.71	11.08	3.22	1.42	2.92	4.58
HSF	Hybrid Sunfish	1.02	0.11	0.34	N/A	N/A	N/A
LMB	Largemouth Bass	6.94	0.77	3.47	0.30	0.85	1.53
NOP	Northern Pike	8.05	0.89	8.05	N/A	N/A	N/A
PMK	Pumpkinseed	3.64	0.40	0.17	0.08	0.12	0.20
WAE	Walleye	11.61	1.29	2.32	0.82	1.44	2.28
YEB	Yellow Bullhead	28.96	3.22	0.83	0.31	0.48	0.67
YEP	Yellow Perch	1.68	0.19	0.07	0.11	0.18	0.30
Total Pounds Fish/Set:			21.32	* Quartiles for Mean Weight			

Electrofishing Catch Summary for EF

Standard electrofishing

Total run-time for all stations: 01:02:00
Total on-time for all stations: 01:00:34
First Sampling Date: 05/22/2014
Last Sampling Date: 05/22/2014
Daylight Sampling: No
Target Species: All ages largemouth bass

Abbr	Species	Summary By Numbers			Summary By Weight (pounds)			
		Total Number	Number per Hour Run-Time	On-Time	Total Weight	Lbs per Hour Run-Time	On-Time	Mean Weight
LMB	Largemouth Bass	125	120.97	123.83	73.16	70.80	72.47	0.59

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 08/25/2014 and 08/26/2014)

	<u>BLB</u>	<u>BLG</u>	<u>CAP</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</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	-	-	-	-	-	1	-	-	-
5.00 - 5.49	2	-	-	-	-	-	-	1	-
5.50 - 5.99	-	-	-	-	-	-	-	3	11
6.00 - 6.49	3	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	-	-	-	-	-	-	-
7.00 - 7.49	4	1	-	-	-	-	-	-	-
7.50 - 7.99	6	-	-	-	-	-	-	-	-
8.00 - 8.49	-	-	-	-	-	-	-	-	2
8.50 - 8.99	-	-	-	-	-	-	-	-	1
9.00 - 9.49	1	-	-	-	-	-	-	1	-
9.50 - 9.99	-	-	-	1	-	-	-	1	4
10.00 - 10.49	2	-	-	-	-	-	-	6	13
10.50 - 10.99	6	-	-	1	-	-	-	4	5
11.00 - 11.49	9	-	-	-	-	-	-	6	-
11.50 - 11.99	9	-	-	-	-	-	-	4	-
12.00 - 12.99	11	-	-	-	-	-	-	2	-
13.00 - 13.99	-	-	-	-	-	-	3	1	-
14.00 - 14.99	-	-	-	-	-	-	12	-	-
15.00 - 15.99	-	-	1	-	-	-	5	-	-
16.00 - 16.99	-	-	3	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	1	-	-
18.00 - 18.99	-	-	2	-	-	-	-	-	-
19.00 - 19.99	-	-	3	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	1	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-
Total	53	1	9	2	1	1	21	29	36
Min. Length	5.00	7.20	15.31	9.92	23.94	4.96	13.82	5.47	5.55
Max. Length	12.83	7.20	19.53	10.98	23.94	4.96	17.80	13.54	10.91
Mean Length	10.21	7.20	17.62	10.45	23.94	4.96	14.77	10.29	9.28
# Measured	53	1	9	2	1	1	21	29	16
No Lengths for	0	0	0	1	0	0	0	0	20

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

STANDARD LAKE SURVEY REPORT
POPULATION ASSESSMENT DATED 08/25/2014 FOR DOW NUMBER 17-0003-00

DRAFT

Length Frequency Distribution For TN

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

(Field work conducted between 08/25/2014 and 08/28/2014)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	4	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	1	5	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	12	-	-	-	-	2	-	-	1
4.50 - 4.99	-	-	24	-	-	-	-	6	-	-	4
5.00 - 5.49	-	-	5	-	1	-	-	5	-	-	8
5.50 - 5.99	1	-	2	-	-	-	-	2	-	-	8
6.00 - 6.49	-	-	1	-	-	-	-	2	-	-	2
6.50 - 6.99	-	-	12	-	-	-	-	2	-	-	-
7.00 - 7.49	1	-	5	-	1	-	-	3	-	-	-
7.50 - 7.99	-	-	17	1	-	-	-	-	-	-	-
8.00 - 8.49	-	-	15	-	1	-	-	-	-	-	-
8.50 - 8.99	-	-	7	-	-	-	-	-	-	-	-
9.00 - 9.49	-	-	-	-	-	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	-	-	-	2	-
10.00 - 10.49	-	-	-	-	-	-	-	-	-	2	-
10.50 - 10.99	1	-	-	-	-	-	-	-	-	6	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	1	-
11.50 - 11.99	-	-	-	-	-	1	-	-	1	11	-
12.00 - 12.99	-	-	-	-	-	-	-	-	-	12	-
13.00 - 13.99	-	-	-	-	-	-	-	-	-	1	-
14.00 - 14.99	-	-	-	-	-	-	-	-	1	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-	1	-	-
16.00 - 16.99	-	-	-	4	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	4	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	10	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	10	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	2	-	-	-	-	1	-	-
21.00 - 21.99	-	-	-	-	-	1	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	1	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	1	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-
	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	3	5	105	31	3	2	1	22	5	35	23
Min. Length	5.98	3.19	3.62	7.91	5.35	11.77	32.60	4.29	11.85	9.61	4.45
Max. Length	10.94	3.78	8.78	20.55	8.46	21.57	32.60	7.28	24.65	13.31	6.18
Mean Length	8.04	3.46	6.29	18.17	7.09	16.67	32.60	5.55	17.26	11.63	5.34
# Measured	3	5	105	31	3	2	1	22	5	35	23
No Lengths for	0	1	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

Length Frequency Distribution For EF

Standard electrofishing

(Field work conducted on 05/22/2014)

	<u>LMB</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	4
6.00 - 6.49	17
6.50 - 6.99	25
7.00 - 7.49	34
7.50 - 7.99	22
8.00 - 8.49	6
8.50 - 8.99	-
9.00 - 9.49	-
9.50 - 9.99	-
10.00 - 10.49	-
10.50 - 10.99	-
11.00 - 11.49	-
11.50 - 11.99	-
12.00 - 12.99	1
13.00 - 13.99	-
14.00 - 14.99	1
15.00 - 15.99	8
16.00 - 16.99	2
17.00 - 17.99	3
18.00 - 18.99	1
19.00 - 19.99	1
20.00 - 20.99	2
21.00 - 21.99	-
22.00 - 22.99	-
23.00 - 23.99	-
24.00 - 24.99	-
25.00 - 25.99	-
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>LMB</u>
Total	127
Min. Length	5.51
Max. Length	20.20
Mean Length	8.90
# Measured	86
No Lengths for	39

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	35	0	N/A	0	N/A
	Snapping Turtle	2	2	12.13 - 13.90 - 15.67	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 Standard Lake Survey Report contains preliminary data (as of 08/28/2014), 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.

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Mountain

Survey Type: Population Assessment

DOW Number: 17-0003-00

Survey ID Date: 08/25/2014

Survey Status: Field Work Complete

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

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 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 08/28/2014 may not be reflected in the Distribution tables until 08/29/2014.