



Minnesota Department of Natural Resources
Fisheries Management



STANDARD LAKE SURVEY REPORT

DRAFT VERSION - PRELIMINARY DATA (AS OF 08/23/2013)

Lake Name: Temperance

Survey Type: Population Assessment

DOW Number: 46-0103-00

Survey ID Date: 08/19/2013

Lake Identification

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

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

Lake Location

Primary County: Martin

Nearest Town: Sherburn

Legal Descriptions

Lake Center: Township - 102N Range - 32W Section - 8
PLS Section Lake Center: 10203208

All Legal Descriptions:

Martin County: Township - 102N Range - 32W Sections - 5, 6, 7, 8

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Population Assessment dated 08/12/1996)

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): 176.00	GIS Shoreline Length (miles): 2.16
GIS Lake Area (acres): 166.05	Maximum Fetch (miles): 0.70
DOW Lake Area (acres): 176.00	Fetch Orientation (degrees): 22
Littoral Area (acres): 166.05	USGS Quad Map Number: X11b
Area in MN (acres): 166.05	USGS Quad 24K GIS Index: 4621
Maximum Depth (feet): 5.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: E. Fork Des Moines River
Watershed Number: 53
Watershed size (acres): 129,425

Minor Watershed

Name: Co Ditch #11
Watershed Number: 7
Watershed size (acres): 5,117

Surveys And Investigations

Initial Survey: 08/12/1991.
 Re-Survey: 07/30/2001.
 Population Assessment: 08/13/2007, 08/12/1996.
 Special Assessment: 04/09/1996.
 Winter Kill Assessment: 04/15/2009.
 Dissolved Oxygen Check: 01/18/2011, 02/05/2010.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/21/2013	Low	6.20	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	08/21/2013	Low	6.20	Above or below Benchmark
	08/13/2007	Low	-7.10	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	-7.10	08/13/2007	6.20	08/21/2013	13.30	-0.45	Above or below Benchmark (2)

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	08/19/2013	4.2	Surface	72.7	6.3
			1.0	72.7	6.3
			2.0	72.7	6.2
			3.0	72.5	6.1
			4.0	72.5	3.9

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	08/19/2013	Surface	0.5	8.50	204	Brown	Sediment

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 1
 First Set Date: 08/19/2013
 Last Lift Date: 08/20/2013
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	9	9.00	0.75	2.58	6.96
BLB	Black Bullhead	30	30.00	30.34	75.58	150.62
CAP	Common Carp	27	27.00	1.00	3.33	13.75
NOP	Northern Pike	5	5.00	1.08	3.00	8.00
WTS	White Sucker	4	4.00	0.81	2.33	6.50
YEB	Yellow Bullhead	1	1.00	0.50	1.50	3.50
YEP	Yellow Perch	29	29.00	2.65	8.00	25.00
Total Fish/Set:			105.00	* 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%
BIB	Bigmouth Buffalo	11.76	11.76	1.31	N/A	N/A	N/A
BLB	Black Bullhead	9.31	9.31	0.31	0.17	0.26	0.39
CAP	Common Carp	62.62	62.62	2.32	0.81	1.98	3.70
NOP	Northern Pike	9.85	9.85	1.97	1.82	2.50	3.35
WTS	White Sucker	4.57	4.57	1.14	0.93	1.58	2.02
YEB	Yellow Bullhead	0.56	0.56	0.56	0.31	0.53	0.73
YEP	Yellow Perch	3.22	3.22	0.11	0.13	0.21	0.31
Total Pounds Fish/Set:			101.89	* 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: 08/19/2013
 Last Lift Date: 08/22/2013
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	25	2.78	0.17	0.38	1.04
BLB	Black Bullhead	25	2.78	11.50	42.00	132.61
BLC	Black Crappie	4	0.44	1.17	4.88	20.50
CAP	Common Carp	21	2.33	1.00	2.44	5.51
NOP	Northern Pike	47	5.22	N/A	N/A	N/A
WTS	White Sucker	13	1.44	0.34	0.88	2.58
YEB	Yellow Bullhead	8	0.89	0.50	1.13	2.50
YEP	Yellow Perch	41	4.56	0.33	1.37	3.76
Total Fish/Set:			20.44	* 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%
BIB	Bigmouth Buffalo	181.67	20.19	7.27	2.56	3.75	5.83
BLB	Black Bullhead	10.13	1.13	0.41	0.18	0.28	0.40
BLC	Black Crappie	3.07	0.34	0.77	0.22	0.34	0.50
CAP	Common Carp	54.68	6.08	2.60	1.42	2.92	4.58
NOP	Northern Pike	110.12	12.24	2.34	N/A	N/A	N/A
WTS	White Sucker	15.46	1.72	1.19	1.05	1.47	2.04
YEB	Yellow Bullhead	5.15	0.57	0.64	0.31	0.48	0.67
YEP	Yellow Perch	4.84	0.54	0.12	0.11	0.18	0.30
Total Pounds Fish/Set:			42.79	* Quartiles for Mean Weight			

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 08/19/2013 and 08/20/2013)

	<u>BIB</u>	<u>YBIB</u>	<u>BLB</u>	<u>CAP</u>	<u>NOP</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-
4.00 - 4.49	-	1	-	-	-	-	-	-
4.50 - 4.99	-	5	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-	-	1
5.50 - 5.99	-	-	-	-	-	-	-	13
6.00 - 6.49	-	-	-	-	-	-	-	11
6.50 - 6.99	-	-	2	-	-	-	-	1
7.00 - 7.49	-	-	2	-	-	-	-	1
7.50 - 7.99	-	-	2	-	-	-	-	-
8.00 - 8.49	-	-	6	-	-	-	-	1
8.50 - 8.99	-	-	12	-	-	-	-	-
9.00 - 9.49	-	-	5	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	-	-
10.00 - 10.49	-	-	-	-	-	-	1	-
10.50 - 10.99	-	-	1	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-
12.00 - 12.99	-	-	-	-	-	-	-	-
13.00 - 13.99	1	-	-	-	-	2	-	-
14.00 - 14.99	-	-	-	5	-	2	-	-
15.00 - 15.99	1	-	-	9	-	-	-	-
16.00 - 16.99	-	-	-	7	-	-	-	-
17.00 - 17.99	-	-	-	2	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	1	1	-	-	-
20.00 - 20.99	-	-	-	1	1	-	-	-
21.00 - 21.99	1	-	-	-	3	-	-	-
22.00 - 22.99	-	-	-	1	-	-	-	-
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	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-

	<u>BIB</u>	<u>YBIB</u>	<u>BLB</u>	<u>CAP</u>	<u>NOP</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	3	6	30	27	5	4	1	28
Min. Length	13.74	4.41	6.89	14.21	19.29	13.31	10.20	5.43
Max. Length	21.10	4.76	10.87	24.06	21.38	14.41	10.20	8.31
Mean Length	16.80	4.58	8.49	16.55	20.64	13.95	10.20	6.11
# Measured	3	6	30	27	5	4	1	25
No Lengths for	0	0	0	0	0	0	0	3

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 08/19/2013 and 08/22/2013)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-
4.00 - 4.49	1	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	1
5.00 - 5.49	-	-	-	-	-	-	-	8
5.50 - 5.99	-	-	-	-	-	-	-	12
6.00 - 6.49	-	-	-	-	-	-	-	9
6.50 - 6.99	-	-	-	-	-	-	-	6
7.00 - 7.49	-	-	-	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-	-	1	1
8.00 - 8.49	-	1	-	-	-	-	-	1
8.50 - 8.99	-	8	-	-	-	-	-	2
9.00 - 9.49	-	9	-	-	-	-	-	-
9.50 - 9.99	-	2	1	-	-	-	2	-
10.00 - 10.49	-	1	1	-	-	-	3	-
10.50 - 10.99	-	2	2	-	-	-	-	-
11.00 - 11.49	-	2	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-
12.00 - 12.99	-	-	-	1	-	-	2	-
13.00 - 13.99	-	-	-	3	-	4	-	-
14.00 - 14.99	-	-	-	4	-	8	-	-
15.00 - 15.99	-	-	-	4	-	1	-	-
16.00 - 16.99	-	-	-	2	-	-	-	-
17.00 - 17.99	-	-	-	2	-	-	-	-
18.00 - 18.99	2	-	-	-	1	-	-	-
19.00 - 19.99	1	-	-	1	2	-	-	-
20.00 - 20.99	2	-	-	1	5	-	-	-
21.00 - 21.99	6	-	-	-	3	-	-	-
22.00 - 22.99	3	-	-	1	7	-	-	-
23.00 - 23.99	1	-	-	-	18	-	-	-
24.00 - 24.99	2	-	-	-	8	-	-	-
25.00 - 25.99	5	-	-	-	2	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	-
27.00 - 27.99	1	-	-	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	-	-	-	-	-	-	-	-
	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	25	25	4	21	46	13	8	40
Min. Length	4.13	8.46	9.88	12.24	18.50	13.27	7.91	4.84
Max. Length	28.35	11.22	10.83	28.15	25.39	15.16	12.40	8.90
Mean Length	22.05	9.41	10.44	17.12	22.85	14.21	10.30	6.11
# Measured	25	25	4	21	46	13	8	38
No Lengths for	0	0	0	0	1	0	0	3

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	8	0	N/A	0	N/A
	Snapping Turtle	4	4	12.40 - 12.93 - 14.17	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 08/23/2013), 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: Temperance

Survey Type: Population Assessment

DOW Number: 46-0103-00

Survey ID Date: 08/19/2013

Survey Status: Proposed

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

1. Water Level History*
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
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)

* 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.

* 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 08/23/2013 may not be reflected in the Distribution tables until after 12:30 pm on 08/23/2013.