



Minnesota Department of Natural Resources Fisheries Management



STANDARD LAKE SURVEY REPORT

DRAFT VERSION - PRELIMINARY DATA (AS OF 06/25/2012)

Lake Name: Summit

Survey Type: Population Assessment

DOW Number: 51-0068-00

Survey ID Date: 06/04/2012

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 40

DNR Sounding Map Number: C0475
Alternate Lake Class ID: N/A

Lake Location

Primary County: Murray

Nearest Town: Hadley

Legal Descriptions

Lake Center: Township - 106N Range - 42W Section - 11
PLS Section Lake Center: 10604211

All Legal Descriptions:

Murray County: Township - 106N Range - 42W Section - 11

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Re-Survey dated 06/02/2008)

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): 77.00	GIS Shoreline Length (miles): 1.47
GIS Lake Area (acres): 76.86	Maximum Fetch (miles): 0.50
DOW Lake Area (acres): 80.00	Fetch Orientation (degrees): 292
Littoral Area (acres): 76.86	USGS Quad Map Number: W06a
Area in MN (acres): 76.86	USGS Quad 24K GIS Index: 4412
Maximum Depth (feet): 7.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Des Moines-Headwaters
Watershed Number: 51
Watershed size (acres): 798,595

Minor Watershed

Name: unknown DNR Minor Wshd
Watershed Number: 70
Watershed size (acres): 7,061

Surveys And Investigations

Re-Survey: 06/02/2008, 06/10/1996.

Population Assessment: 06/04/2012, 05/24/2004, 05/30/2000, 06/09/1992, 08/11/1987.

Special Assessment: 04/23/2001.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/07/2012	N/A	-0.60	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	06/07/2012	N/A	-0.60	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	-0.60	06/07/2012	-0.60	06/07/2012	0.00	-0.60	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	06/07/2012	6.4	Surface	69.8	7.6
			1.0	70.0	7.5
			2.0	70.0	7.5
			3.0	70.0	7.5
			4.0	70.0	7.6
			5.0	69.8	7.6
			6.0	70.0	7.5

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	06/07/2012	Surface	1.0	8.60	188	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 1
 First Set Date: 06/04/2012
 Last Lift Date: 06/05/2012
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 40*		
				25%	50%	75%
BLB	Black Bullhead	16	16.00	8.00	34.00	90.00
CAP	Common Carp	2	2.00	1.53	4.50	11.58
NOP	Northern Pike	6	6.00	1.50	3.00	9.00
YEP	Yellow Perch	360	360.00	2.50	11.50	25.75
Total Fish/Set:			384.00	* 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 40*		
					25%	50%	75%
BLB	Black Bullhead	1.45	1.45	0.09	0.14	0.21	0.37
CAP	Common Carp	1.87	1.87	0.93	0.94	1.72	3.05
NOP	Northern Pike	31.97	31.97	5.33	1.75	2.42	3.66
YEP	Yellow Perch	34.62	34.62	0.10	0.10	0.15	0.20
Total Pounds Fish/Set:			69.91	* 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: 06/04/2012
 Last Lift Date: 06/07/2012
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 40*		
				25%	50%	75%
BLB	Black Bullhead	143	15.89	2.50	8.30	70.20
BLC	Black Crappie	1	0.11	1.25	4.50	27.68
CAP	Common Carp	9	1.00	0.43	1.38	2.90
HSF	Hybrid Sunfish	2	0.22	N/A	N/A	N/A
NOP	Northern Pike	4	0.44	N/A	N/A	N/A
WAE	Walleye	41	4.56	0.29	0.75	1.33
WHC	White Crappie	4	0.44	0.25	1.25	8.20
YEP	Yellow Perch	557	61.89	0.35	1.00	3.49
Total Fish/Set:			84.56	* 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 40*		
					25%	50%	75%
BLB	Black Bullhead	45.20	5.02	0.32	0.14	0.24	0.47
BLC	Black Crappie	1.39	0.15	1.39	0.14	0.22	0.35
CAP	Common Carp	61.31	6.81	6.81	1.43	3.46	4.54
HSF	Hybrid Sunfish	0.13	0.01	0.06	N/A	N/A	N/A
NOP	Northern Pike	48.18	5.35	12.04	N/A	N/A	N/A
WAE	Walleye	4.19	0.47	0.10	0.71	1.07	2.20
WHC	White Crappie	2.15	0.24	0.54	0.13	0.27	0.54
YEP	Yellow Perch	90.42	10.05	0.16	0.10	0.15	0.24
Total Pounds Fish/Set:			28.11	* Quartiles for Mean Weight			

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 06/04/2012 and 06/05/2012)

	<u>BLB</u>	<u>CAP</u>	<u>NOP</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	-	-	-	7
5.50 - 5.99	12	-	-	34
6.00 - 6.49	2	-	-	100
6.50 - 6.99	2	-	-	113
7.00 - 7.49	-	-	-	73
7.50 - 7.99	-	-	-	23
8.00 - 8.49	-	-	-	4
8.50 - 8.99	-	-	-	3
9.00 - 9.49	-	-	-	-
9.50 - 9.99	-	-	-	-
10.00 - 10.49	-	-	-	1
10.50 - 10.99	-	-	-	-
11.00 - 11.49	-	-	-	-
11.50 - 11.99	-	1	-	2
12.00 - 12.99	-	1	-	1
13.00 - 13.99	-	-	-	-
14.00 - 14.99	-	-	-	-
15.00 - 15.99	-	-	-	-
16.00 - 16.99	-	-	-	-
17.00 - 17.99	-	-	-	-
18.00 - 18.99	-	-	-	-
19.00 - 19.99	-	-	-	-
20.00 - 20.99	-	-	-	-
21.00 - 21.99	-	-	-	-
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	-	-	4	-
28.00 - 28.99	-	-	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>BLB</u>	<u>CAP</u>	<u>NOP</u>	<u>YEP</u>
Total	16	2	6	361
Min. Length	5.51	11.50	24.84	5.39
Max. Length	6.93	12.83	28.58	12.64
Mean Length	5.85	12.17	27.22	7.24
# Measured	16	2	6	89
No Lengths for	0	0	0	271

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 (for fish < 36.00 inches)

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

(Field work conducted between 06/04/2012 and 06/07/2012)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>HSF</u>	<u>NOP</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	2	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	1	20
5.00 - 5.49	-	-	-	-	-	-	-	32
5.50 - 5.99	10	-	-	-	-	-	1	56
6.00 - 6.49	18	-	-	-	-	1	-	86
6.50 - 6.99	23	-	-	-	-	15	-	73
7.00 - 7.49	34	-	-	-	-	23	-	108
7.50 - 7.99	16	-	-	-	-	2	-	93
8.00 - 8.49	2	-	-	-	-	-	-	20
8.50 - 8.99	3	-	-	-	-	-	-	25
9.00 - 9.49	3	-	-	-	-	-	-	8
9.50 - 9.99	6	-	-	-	-	-	-	5
10.00 - 10.49	11	-	-	-	-	-	-	3
10.50 - 10.99	3	-	-	-	-	-	-	2
11.00 - 11.49	4	-	-	-	-	-	1	7
11.50 - 11.99	7	-	-	-	-	-	-	8
12.00 - 12.99	4	1	-	-	-	-	1	3
13.00 - 13.99	-	-	-	-	-	-	-	5
14.00 - 14.99	-	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	2	-	-	-	-	-
24.00 - 24.99	-	-	4	-	-	-	-	-
25.00 - 25.99	-	-	1	-	-	-	-	-
26.00 - 26.99	-	-	1	-	-	-	-	-
27.00 - 27.99	-	-	1	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-
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	-	-	-	-	3	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>HSF</u>	<u>NOP</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
Total	144	1	9	2	4	41	4	554
Min. Length	5.63	12.99	23.23	3.78	29.53	6.42	4.69	4.69
Max. Length	12.20	12.99	27.17	3.90	38.19	7.60	12.32	13.11
Mean Length	7.99	12.99	24.80	3.84	35.78	7.09	8.60	6.99
# Measured	101	1	9	2	4	39	4	206
No Lengths for	42	0	0	0	0	2	0	351

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 (for fish ≥ 36.00 inches)

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

(Field work conducted between 06/04/2012 and 06/07/2012)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>HSF</u>	<u>NOP</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
< 36.00	143	1	9	2	1	41	4	557
36.00 - 36.99	-	-	-	-	-	-	-	-
37.00 - 37.99	-	-	-	-	2	-	-	-
38.00 - 38.99	-	-	-	-	1	-	-	-
39.00 - 39.99	-	-	-	-	-	-	-	-
40.00 - 40.99	-	-	-	-	-	-	-	-
41.00 - 41.99	-	-	-	-	-	-	-	-
42.00 - 42.99	-	-	-	-	-	-	-	-
43.00 - 43.99	-	-	-	-	-	-	-	-
44.00 - 44.99	-	-	-	-	-	-	-	-
45.00 - 45.99	-	-	-	-	-	-	-	-
46.00 - 46.99	-	-	-	-	-	-	-	-
47.00 - 47.99	-	-	-	-	-	-	-	-
48.00 - 48.99	-	-	-	-	-	-	-	-
49.00 - 49.99	-	-	-	-	-	-	-	-
50.00 - 50.99	-	-	-	-	-	-	-	-
51.00 - 51.99	-	-	-	-	-	-	-	-
52.00 - 52.99	-	-	-	-	-	-	-	-
53.00 - 53.99	-	-	-	-	-	-	-	-
54.00 - 54.99	-	-	-	-	-	-	-	-
55.00 - 55.99	-	-	-	-	-	-	-	-
56.00 - 56.99	-	-	-	-	-	-	-	-
57.00 - 57.99	-	-	-	-	-	-	-	-
58.00 - 58.99	-	-	-	-	-	-	-	-
59.00 - 59.99	-	-	-	-	-	-	-	-
60.00 - 60.99	-	-	-	-	-	-	-	-
61.00 - 61.99	-	-	-	-	-	-	-	-
62.00 - 62.99	-	-	-	-	-	-	-	-
63.00 - 63.99	-	-	-	-	-	-	-	-
64.00 - 64.99	-	-	-	-	-	-	-	-
65.00 - 65.99	-	-	-	-	-	-	-	-
66.00 - 66.99	-	-	-	-	-	-	-	-
67.00 - 67.99	-	-	-	-	-	-	-	-
68.00 - 68.99	-	-	-	-	-	-	-	-
69.00 - 69.99	-	-	-	-	-	-	-	-
70.00 - 70.99	-	-	-	-	-	-	-	-
71.00 - 71.99	-	-	-	-	-	-	-	-
72.00 - 72.99	-	-	-	-	-	-	-	-
73.00 - 73.99	-	-	-	-	-	-	-	-
74.00 - 74.99	-	-	-	-	-	-	-	-
75.00 - 75.99	-	-	-	-	-	-	-	-
76.00 - 76.99	-	-	-	-	-	-	-	-
77.00 - 77.99	-	-	-	-	-	-	-	-
= > 78.00	-	-	-	-	-	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>HSF</u>	<u>NOP</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
Total	143	1	9	2	4	41	4	557
Min. Length	5.63	12.99	23.23	3.78	29.53	6.42	4.69	4.69
Max. Length	12.20	12.99	27.17	3.90	38.19	7.60	12.32	13.11
Mean Length	7.99	12.99	24.80	3.84	35.78	7.09	8.60	6.99
# Measured	101	1	9	2	4	39	4	206
No Lengths for	42	0	0	0	0	2	0	351

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 06/25/2012), 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: Summit

Survey Type: Population Assessment

DOW Number: 51-0068-00

Survey ID Date: 06/04/2012

Survey Status: Field Work Complete

The following 19 (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. Other Species (added to revision 03/24/2009)
19. 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 after noon on 06/25/2012 may not be reflected in the Distribution tables until 06/26/2012.