



Minnesota Department of Natural Resources
 Fisheries Management
LAKE SURVEY REPORT



DRAFT VERSION - PRELIMINARY DATA (AS OF 07/01/2016)

Lake Name: Loon

Survey Type: Standard Survey

DOW Number: 32-0020-00

Survey ID Date: 06/27/2016

Lake Identification

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

DNR Sounding Map Number: C0523
 Alternate Lake Class ID: N/A

Lake Location

Primary County: Jackson

Nearest Town: Jackson

Legal Descriptions

Lake Center: Township - 101N Range - 36W Section - 24
 PLS Section Lake Center: 10103624

All Legal Descriptions:

Jackson County: Township - 101N Range - 35W Sections - 18, 19
 Township - 101N Range - 36W Sections - 13, 24, 25

Area Office

Area Name: Windom
 Region Name: Southern

ORG Code: F418
 Region Number: 4

Lake Access

(Information based on Re-Survey dated 06/21/1993)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	State owned access on southwest side of lake.

(Data excludes records where public use is not designated or is designated "No Public Use")

Lake Characteristics

Lake Area (planimetered acres): 679.00	GIS Shoreline Length (miles): 6.24
GIS Lake Area (acres): 707.68	Maximum Fetch (miles): 2.00
DOW Lake Area (acres): 738.00	Fetch Orientation (degrees): 292
Littoral Area (acres): 706.97	USGS Quad Map Number: X09d
Area in MN (acres): 707.68	USGS Quad 24K GIS Index: 4718
Maximum Depth (feet): 7.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

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

Minor Watershed

Name: To Spirit L
 Watershed Number: 25
 Watershed size (acres): 5,231

Surveys and Investigations

Re-Survey: 06/25/2001, 06/21/1993, 06/20/1983.
Population Assessment: 06/18/2012, 06/28/2008, 06/28/2004, 06/23/1997, 06/11/1990, 06/14/1988.
Special Assessment: 10/17/2000, 10/07/1998, 10/02/1996, 11/14/1994, 08/10/1948.
Creel Survey: 05/01/1990.
Winter Kill Assessment: 04/24/2014.
Dissolved Oxygen Check: 02/10/2016, 01/20/2015, 01/02/2014, 02/07/2013, 01/04/2013, 02/17/2012, 01/26/2012, 12/28/2010, 01/04/2010.
Natural Reproduction Check: 09/16/2010.
External Management Survey: 07/30/2014.
Standard Survey: 06/27/2016.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/27/2016	High	-2.20	Above or below Benchmark
GA - 1	06/27/2016	High	1.30	Direct Gauge Reading

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	N/A
GA - 1	N/A

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/27/2016	High	-2.20	Above or below Benchmark
	06/18/2012	Normal	1.50	Direct Gauge Reading
	07/02/2008	N/A	-2.70	Above or below Benchmark
GA - 1	06/27/2016	High	1.30	Direct Gauge Reading

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	-2.70	07/02/2008	-2.20	06/27/2016	0.50	-2.45	Above or below Benchmark (2)
BM - 1	1.50	06/18/2012	1.50	06/18/2012	0.00	1.50	Direct Gauge Reading (1)
GA - 1	1.30	06/27/2016	1.30	06/27/2016	0.00	1.30	Direct Gauge Reading (1)

Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water	Dissolved
				Temperature (°F)	Oxygen (ppm)
WQ - 1	06/27/2016	7.2	Surface	75.0	10.8
			1.0	75.0	10.8
			2.0	75.0	10.8
			3.0	75.0	10.6
			4.0	75.0	10.5
			5.0	75.0	10.4
			6.0	74.7	9.7
			7.0	74.3	8.5

Field Measurements of Water Quality

<u>Station ID</u>	<u>Sampling Date</u>	<u>Sample Depth (Feet)</u>	<u>Secchi Depth (Feet)</u>	<u>Field pH</u>	<u>Alkalinity (ppm)</u>	<u>Water Color</u>	<u>Color Cause</u>
WQ - 1	06/27/2016	Surface	1.5	8.30	187	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 4
First Set Date: 06/27/2016
Last Lift Date: 06/30/2016
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	4	1.00	0.75	2.58	6.96
BLB	Black Bullhead	81	20.25	30.34	75.58	150.62
BLC	Black Crappie	1	0.25	1.41	3.71	13.75
CCF	Channel Catfish	3	0.75	N/A	N/A	N/A
CAP	Common Carp	19	4.75	1.00	3.33	13.75
FRD	Freshwater Drum	5	1.25	0.50	2.56	8.33
NOP	Northern Pike	1	0.25	1.08	3.00	8.00
WAE	Walleye	121	30.25	2.28	6.83	18.06
WTS	White Sucker	69	17.25	0.81	2.33	6.50
YEP	Yellow Perch	22	5.50	2.65	8.00	25.00
Total Fish/Set:			81.50	* 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	13.48	3.37	3.37	N/A	N/A	N/A
BLB	Black Bullhead	37.99	9.50	0.47	0.17	0.26	0.39
BLC	Black Crappie	0.39	0.10	0.39	0.16	0.25	0.35
CCF	Channel Catfish	16.32	4.08	5.44	N/A	N/A	N/A
CAP	Common Carp	45.38	11.35	2.39	0.81	1.98	3.70
FRD	Freshwater Drum	4.09	1.02	0.82	0.40	0.82	1.67
NOP	Northern Pike	1.43	0.36	1.43	1.82	2.50	3.35
WAE	Walleye	153.90	38.48	1.27	1.01	1.53	2.30
WTS	White Sucker	109.12	27.28	1.58	0.93	1.58	2.02
YEP	Yellow Perch	8.31	2.08	0.38	0.13	0.21	0.31
Total Pounds Fish/Set:			97.61	* 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: 06/26/2016
 Last Lift Date: 06/30/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	1	0.08	0.17	0.38	1.04
BLB	Black Bullhead	15	1.25	11.50	42.00	132.61
BLC	Black Crappie	7	0.58	1.17	4.88	20.50
BLG	Bluegill	1	0.08	1.17	3.89	20.00
CCF	Channel Catfish	2	0.17	N/A	N/A	N/A
CAP	Common Carp	100	8.33	1.00	2.44	5.51
FRD	Freshwater Drum	1	0.08	0.23	0.92	3.25
NOP	Northern Pike	5	0.42	N/A	N/A	N/A
OSS	Orangespotted Sunfish	4	0.33	N/A	N/A	N/A
WAE	Walleye	6	0.50	0.50	1.33	2.95
YEB	Yellow Bullhead	1	0.08	0.50	1.13	2.50
YEP	Yellow Perch	5	0.42	0.33	1.37	3.76
Total Fish/Set:			12.33	* 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	12.35	1.03	12.35	2.56	3.75	5.83
BLB	Black Bullhead	14.27	1.19	0.95	0.18	0.28	0.40
BLC	Black Crappie	3.35	0.28	0.48	0.22	0.34	0.50
BLG	Bluegill	0.22	0.02	0.22	0.13	0.24	0.39
CCF	Channel Catfish	17.20	1.43	8.60	N/A	N/A	N/A
CAP	Common Carp	406.00	33.83	4.06	1.42	2.92	4.58
FRD	Freshwater Drum	0.09	0.01	0.09	0.28	0.60	0.95
NOP	Northern Pike	17.68	1.47	3.54	N/A	N/A	N/A
OSS	Orangespotted Sunfish	0.09	0.01	0.02	N/A	N/A	N/A
WAE	Walleye	2.91	0.24	0.49	0.82	1.44	2.28
YEB	Yellow Bullhead	0.65	0.05	0.65	0.31	0.48	0.67
YEP	Yellow Perch	0.92	0.08	0.18	0.11	0.18	0.30
Total Pounds Fish/Set:			39.64	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 06/27/2016 and 06/30/2016)

	<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	-	-	-	-	-	1	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	3	-	-	-	-	-	-	-	-
5.00 - 5.49	-	9	-	-	-	-	-	-	-	-
5.50 - 5.99	-	12	-	-	-	-	-	-	-	-
6.00 - 6.49	-	4	-	-	-	-	-	-	-	2
6.50 - 6.99	-	2	-	-	-	-	-	-	1	3
7.00 - 7.49	-	1	-	-	-	2	-	-	-	6
7.50 - 7.99	-	3	-	-	-	1	-	-	-	-
8.00 - 8.49	1	-	-	-	-	-	-	3	-	1
8.50 - 8.99	-	3	1	-	-	-	-	7	-	-
9.00 - 9.49	-	6	-	-	-	-	-	13	-	2
9.50 - 9.99	-	16	-	-	-	-	-	-	-	3
10.00 - 10.49	-	12	-	-	-	-	-	-	-	1
10.50 - 10.99	-	4	-	-	-	-	-	-	-	2
11.00 - 11.49	-	1	-	-	-	-	-	-	1	1
11.50 - 11.99	-	-	-	-	-	-	-	-	3	-
12.00 - 12.99	-	3	-	-	-	-	-	3	8	1
13.00 - 13.99	1	2	-	1	-	-	-	10	19	-
14.00 - 14.99	-	-	-	-	-	-	-	35	23	-
15.00 - 15.99	-	-	-	6	-	-	-	24	6	-
16.00 - 16.99	-	-	-	7	-	-	-	12	2	-
17.00 - 17.99	-	-	-	1	-	-	-	4	2	-
18.00 - 18.99	-	-	-	2	-	1	1	3	1	-
19.00 - 19.99	-	-	-	2	-	-	-	3	2	-
20.00 - 20.99	1	-	-	-	1	-	-	-	1	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	1	-	-	-	-	-
23.00 - 23.99	1	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	1	-	-
25.00 - 25.99	-	-	-	-	-	-	-	1	-	-
26.00 - 26.99	-	-	-	-	-	-	-	1	-	-
27.00 - 27.99	-	-	-	-	1	-	-	-	-	-
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	4	81	1	19	3	5	1	120	69	22
Min. Length	8.11	4.72	8.54	13.98	20.55	1.77	18.86	8.35	6.97	6.34
Max. Length	23.07	13.78	8.54	19.53	27.95	18.03	18.86	26.77	20.08	12.24
Mean Length	16.11	8.39	8.54	16.70	23.65	8.48	18.86	14.28	14.23	8.59
# Measured	4	81	1	18	3	5	1	120	69	21
No Lengths for	0	0	0	1	0	0	0	1	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

Length Frequency Distribution for TN

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

(Field work conducted between 06/26/2016 and 06/30/2016)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>NOP</u>	<u>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	3	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	1	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	1	-	-	-	-	-	-	-	-	2
5.50 - 5.99	-	-	1	-	-	-	-	-	-	-	-	1
6.00 - 6.49	-	-	-	-	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	-	1	-	-	1	-	-	-	-	-
7.00 - 7.49	-	-	1	-	-	-	-	-	-	-	-	1
7.50 - 7.99	-	-	-	-	-	-	-	-	-	-	-	-
8.00 - 8.49	-	-	2	-	-	-	-	-	-	-	-	-
8.50 - 8.99	-	-	-	-	-	-	-	-	-	-	-	-
9.00 - 9.49	-	1	-	-	-	-	-	-	-	2	-	-
9.50 - 9.99	-	3	-	-	-	-	-	-	-	2	-	-
10.00 - 10.49	-	-	-	-	-	-	-	-	-	-	-	1
10.50 - 10.99	-	-	-	-	-	-	-	-	-	-	1	-
11.00 - 11.49	-	2	-	-	-	-	-	-	-	-	-	-
11.50 - 11.99	-	1	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	5	1	-	-	-	-	-	-	-	-	-
13.00 - 13.99	-	2	1	-	2	-	-	-	-	1	-	-
14.00 - 14.99	-	1	-	-	7	-	-	-	-	1	-	-
15.00 - 15.99	-	-	-	-	14	-	-	1	-	-	-	-
16.00 - 16.99	-	-	-	-	18	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	16	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	9	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	5	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	9	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	2	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	1	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	1	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	1	-	-	1	-	-	-	-
26.00 - 26.99	1	-	-	-	1	-	-	2	-	-	-	-
27.00 - 27.99	-	-	-	-	5	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	4	-	-	1	-	-	-	-
29.00 - 29.99	-	-	-	-	3	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	2	1	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	1	-	-	-	-	-	-	-
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>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>NOP</u>	<u>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	1	15	7	1	100	2	1	5	4	6	1	5
Min. Length	26.18	9.25	5.28	6.61	13.78	22.83	6.50	15.79	2.80	9.06	10.87	5.24
Max. Length	26.18	14.84	13.15	6.61	31.50	30.20	6.50	28.39	3.07	14.29	10.87	10.39
Mean Length	26.18	11.78	8.70	6.61	19.18	26.52	6.50	24.43	2.91	11.02	10.87	6.76
# Measured	1	15	7	1	100	2	1	5	4	6	1	5
No Lengths for	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	Painted Turtle	3	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 07/01/2016), 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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REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Loon

Survey Type: Standard Survey

DOW Number: 32-0020-00

Survey ID Date: 06/27/2016

Survey Status: Field Work Complete

The following 19 (of 32) 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. 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)
19. 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 07/01/2016 may not be reflected in the Distribution tables until after 12:30 pm on 07/01/2016.

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