



Minnesota Department of Natural Resources
Fisheries Management



STANDARD LAKE SURVEY REPORT

DRAFT VERSION - PRELIMINARY DATA (AS OF 06/23/2015)

Lake Name: Independence

Survey Type: Standard Survey

DOW Number: 32-0017-00

Survey ID Date: 06/15/2015

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: Jackson

Nearest Town: Jackson

Legal Descriptions

Lake Center: Township - 104N Range - 35W Section - 33
PLS Section Lake Center: 10403533

All Legal Descriptions:

Jackson County: Township - 103N Range - 35W Section - 4
Township - 104N Range - 35W Section - 33

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Special Assessment dated 09/28/1995)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	STATE LEASED ACCESS ON SOUTH SIDE OF LAKE.

Lake Characteristics

Lake Area (planimetered acres): 112.00
GIS Lake Area (acres): 98.83
DOW Lake Area (acres): 97.00
Littoral Area (acres): 96.50
Area in MN (acres): 96.50
Maximum Depth (feet): 10.0
Mean Depth (feet): N/A

GIS Shoreline Length (miles): 1.50
Maximum Fetch (miles): 0.50
Fetch Orientation (degrees): 67
USGS Quad Map Number: W09d
USGS Quad 24K GIS Index: 4518

Watershed Characteristics

Major Watershed

Name: Blue Earth River
Watershed Number: 30
Watershed size (acres): 777,240

Minor Watershed

Name: Elm Cr
Watershed Number: 96
Watershed size (acres): 7,078

Surveys And Investigations

Initial Survey: 06/24/1985.
 Re-Survey: 06/25/2007, 06/21/1999.
 Population Assessment: 06/27/2011, 06/23/2003, 06/25/1990.
 Special Assessment: 05/29/1996, 04/10/1996, 09/28/1995, 08/04/1948.
 Dissolved Oxygen Check: 02/24/2015, 01/02/2014, 02/07/2013, 01/04/2013, 02/17/2012, 01/26/2012, 12/28/2010,
 01/04/2010.
 Standard Survey: 06/15/2015.
 Targeted Survey: 06/15/2015.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/18/2015	Normal	-6.50	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	06/18/2015	Normal	-6.50	Above or below Benchmark
BM - 3	06/27/2011	High	-5.25	Above or below Benchmark
	06/28/2007	High	6.50	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	-6.50	06/18/2015	-6.50	06/18/2015	0.00	-6.50	Above or below Benchmark (1)
BM - 3	-5.25	06/27/2011	6.50	06/28/2007	11.75	0.63	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	06/15/2015	9.8	1.0	71.6	10.3
			2.0	71.8	10.0
			3.0	71.8	10.0
			4.0	71.8	10.0
			5.0	71.2	9.1
			6.0	71.2	8.5
			7.0	70.7	5.5
			8.0	70.2	4.6
			9.0	69.6	2.1

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	06/15/2015	Surface	6.5	8.93	145	Clear	N/A

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
 First Set Date: 06/15/2015
 Last Lift Date: 06/18/2015
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	21	7.00	30.34	75.58	150.62
BLG	Bluegill	2	0.67	N/A	N/A	N/A
LMB	Largemouth Bass	6	2.00	0.20	0.50	1.50
PMK	Pumpkinseed	71	23.67	N/A	N/A	N/A
WAE	Walleye	24	8.00	2.28	6.83	18.06
YEP	Yellow Perch	503	167.67	2.65	8.00	25.00
Total Fish/Set:			209.00	* 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	16.39	5.46	0.78	0.17	0.26	0.39
BLG	Bluegill	0.00	0.00	0.00	N/A	N/A	N/A
LMB	Largemouth Bass	5.89	1.96	0.98	0.60	1.18	1.37
PMK	Pumpkinseed	9.55	3.18	0.13	N/A	N/A	N/A
WAE	Walleye	41.77	13.92	1.74	1.01	1.53	2.30
YEP	Yellow Perch	99.49	33.16	0.20	0.13	0.21	0.31
Total Pounds Fish/Set:			57.70	* 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: 06/15/2015
 Last Lift Date: 06/18/2015
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	32	3.56	11.50	42.00	132.61
BLC	Black Crappie	2	0.22	1.17	4.88	20.50
LMB	Largemouth Bass	1	0.11	0.23	0.38	0.67
PMK	Pumpkinseed	254	28.22	0.26	1.35	4.92
YEP	Yellow Perch	62	6.89	0.33	1.37	3.76
Total Fish/Set:			39.00	* 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	25.94	2.88	0.81	0.18	0.28	0.40
BLC	Black Crappie	0.17	0.02	0.09	0.22	0.34	0.50
LMB	Largemouth Bass	0.09	0.01	0.09	0.30	0.85	1.53
PMK	Pumpkinseed	32.90	3.66	0.13	0.08	0.12	0.20
YEP	Yellow Perch	11.15	1.24	0.18	0.11	0.18	0.30
Total Pounds Fish/Set:			7.81	* Quartiles for Mean Weight			

Electrofishing Catch Summary for EF

Standard electrofishing

Total run-time for all stations: 00:45:00

Total on-time for all stations: 00:45:42

First Sampling Date: 05/20/2015

Last Sampling Date: 05/20/2015

Daylight Sampling: No

Target Species: N/A

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	500	666.67	656.45	224.72	299.63	295.04	0.45

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 06/15/2015 and 06/18/2015)

	<u>BLB</u>	<u>LMB</u>	<u>PMK</u>	<u>WAE</u>	<u>YEP</u>
< 3.00	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-
4.00 - 4.49	-	-	2	-	-
4.50 - 4.99	-	-	13	-	-
5.00 - 5.49	-	-	34	-	-
5.50 - 5.99	-	-	21	-	-
6.00 - 6.49	-	-	1	-	6
6.50 - 6.99	-	-	-	-	58
7.00 - 7.49	-	-	-	-	88
7.50 - 7.99	-	-	-	-	214
8.00 - 8.49	-	-	-	-	127
8.50 - 8.99	-	-	-	-	10
9.00 - 9.49	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-
10.00 - 10.49	3	-	-	-	-
10.50 - 10.99	4	1	-	-	-
11.00 - 11.49	12	2	-	-	-
11.50 - 11.99	2	2	-	-	-
12.00 - 12.99	-	1	-	2	-
13.00 - 13.99	-	-	-	3	-
14.00 - 14.99	-	-	-	9	-
15.00 - 15.99	-	-	-	-	-
16.00 - 16.99	-	-	-	1	-
17.00 - 17.99	-	-	-	2	-
18.00 - 18.99	-	-	-	1	-
19.00 - 19.99	-	-	-	1	-
20.00 - 20.99	-	-	-	3	-
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	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-
= > 36.00	-	-	-	-	-

	<u>BLB</u>	<u>LMB</u>	<u>PMK</u>	<u>WAE</u>	<u>YEP</u>
Total	21	6	71	24	503
Min. Length	10.39	10.79	4.41	12.13	6.46
Max. Length	11.73	12.80	6.18	24.25	8.74
Mean Length	11.05	11.58	5.32	16.34	7.72
# Measured	21	6	67	24	100
No Lengths for	0	0	4	0	403

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 06/15/2015 and 06/18/2015)

	<u>BLB</u>	<u>BLC</u>	<u>LMB</u>	<u>PMK</u>	<u>YEP</u>
< 3.00	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-
4.00 - 4.49	-	-	-	18	-
4.50 - 4.99	-	-	-	82	2
5.00 - 5.49	-	2	1	124	6
5.50 - 5.99	-	-	-	29	-
6.00 - 6.49	-	-	-	-	2
6.50 - 6.99	-	-	-	-	7
7.00 - 7.49	-	-	-	-	11
7.50 - 7.99	-	-	-	-	18
8.00 - 8.49	-	-	-	-	15
8.50 - 8.99	-	-	-	2	1
9.00 - 9.49	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-
10.00 - 10.49	1	-	-	-	-
10.50 - 10.99	6	-	-	-	-
11.00 - 11.49	14	-	-	-	-
11.50 - 11.99	9	-	-	-	-
12.00 - 12.99	2	-	-	-	-
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	-	-	-	-	-
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>BLB</u>	<u>BLC</u>	<u>LMB</u>	<u>PMK</u>	<u>YEP</u>
Total	32	2	1	255	62
Min. Length	10.47	5.08	5.43	4.02	4.69
Max. Length	12.28	5.12	5.43	8.66	8.50
Mean Length	11.33	5.10	5.43	5.05	7.40
# Measured	32	2	1	197	58
No Lengths for	0	0	0	57	4

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 05/20/2015)

	<u>LMB</u>
< 3.00	-
3.00 - 3.49	-
3.50 - 3.99	93
4.00 - 4.49	194
4.50 - 4.99	134
5.00 - 5.49	14
5.50 - 5.99	-
6.00 - 6.49	-
6.50 - 6.99	-
7.00 - 7.49	-
7.50 - 7.99	-
8.00 - 8.49	-
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	-
13.00 - 13.99	-
14.00 - 14.99	-
15.00 - 15.99	8
16.00 - 16.99	31
17.00 - 17.99	17
18.00 - 18.99	9
19.00 - 19.99	-
20.00 - 20.99	-
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	500
Min. Length	3.58
Max. Length	18.98
Mean Length	5.93
# Measured	88
No Lengths for	412

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
	Snapping Turtle	1	1	16.14	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 06/23/2015), 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.

Standard Lake Survey Report revision: 20150622-RJE. Data Date: 06/23/2015 at 7:25 am .

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Independence

Survey Type: Standard Survey

DOW Number: 32-0017-00

Survey ID Date: 06/15/2015

Survey Status: Field Work Complete

The following 19 (of 32) report components are not included in this Standard 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 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 06/23/2015 may not be reflected in the Distribution tables until after 12:30 pm on 06/23/2015.

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