



Minnesota Department of Natural Resources
 Fisheries Management
LAKE SURVEY REPORT



DRAFT VERSION - PRELIMINARY DATA (AS OF 07/17/2015)

Lake Name: Fish

Survey Type: Standard Survey

DOW Number: 32-0018-00

Survey ID Date: 07/13/2015

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID: 24

DNR Sounding Map Number: C0931
 Alternate Lake Class ID: N/A

Lake Location

Primary County: Jackson

Nearest Town: Windom

All Counties: Cottonwood, Jackson.

Legal Descriptions

Lake Center: Township - 104N Range - 35W Section - 4
 PLS Section Lake Center: 10403504

All Legal Descriptions:

Cottonwood County: Township - 105N Range - 35W Sections - 33, 34
 Jackson County: Township - 104N Range - 35W Sections - 3, 4, 5

Area Office

Area Name: Windom
 Region Name: Southern

ORG Code: F418
 Region Number: 4

Lake Access

(Information based on Re-Survey dated 07/18/1994)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	STATE-OWNED BOAT ACCESS SOUTHWEST SHORELINE.

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

Lake Characteristics

Lake Area (planimetered acres):	300.00	GIS Shoreline Length (miles):	3.38
GIS Lake Area (acres):	297.12	Maximum Fetch (miles):	1.41
DOW Lake Area (acres):	425.00	Fetch Orientation (degrees):	45
Littoral Area (acres):	150.00	USGS Quad Map Number:	W09d
Area in MN (acres):	297.12	USGS Quad 24K GIS Index:	4518
Maximum Depth (feet):	26.0		
Mean Depth (feet):	N/A		

Watershed Characteristics

Major Watershed

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

Minor Watershed

Name: S Fork Watonwan R
 Watershed Number: 9
 Watershed size (acres): 26,964

Surveys and Investigations

Re-Survey: 06/01/2011, 07/15/2002, 07/18/1994, 07/10/1989, 07/16/1984.
Population Assessment: 07/10/2006, 07/13/1998, 07/16/1990.
Special Assessment: 06/03/2013, 09/09/2008, 08/24/1993.
Creel Survey: 05/01/1990.
Dissolved Oxygen Check: 01/04/2013, 01/20/2012.
Standard Survey: 07/13/2015.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/16/2015	Normal	-2.20	Above or below Benchmark
GA - 1	07/16/2015	Normal	11.40	Direct Gauge Reading

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	Top of South corner of the upstream end of concrete fishway at the NE end of the lake.
GA - 1	Gauge is near the fishway at the NE end of the lake.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/16/2015	Normal	-2.20	Above or below Benchmark
	08/18/2011	Normal	-4.30	Above or below Benchmark
	07/13/2006	Normal	-2.40	Above or below Benchmark
GA - 1	07/16/2015	Normal	11.40	Direct Gauge Reading
	07/13/2006	Normal	11.27	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	-4.30	08/18/2011	-2.20	07/16/2015	2.10	-2.97	Above or below Benchmark (3)
GA - 1	11.27	07/13/2006	11.40	07/16/2015	0.13	11.34	Direct Gauge Reading (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	07/13/2015	23.7	Surface	78.8	8.8
			3.0	78.8	8.8
			6.0	78.8	8.9
			9.0	78.6	8.9
			12.0	77.2	8.4
			15.0	74.3	6.5
			18.0	72.3	3.8
			21.0	72.0	3.6
			23.0	71.4	2.0

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	07/13/2015	Surface	9.0	8.70	170	Green	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
 First Set Date: 07/13/2015
 Last Lift Date: 07/16/2015
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24*		
				25%	50%	75%
BLB	Black Bullhead	137	45.67	2.50	10.46	44.95
BLC	Black Crappie	13	4.33	2.50	6.91	16.50
BLG	Bluegill	19	6.33	N/A	N/A	N/A
CCF	Channel Catfish	30	10.00	N/A	N/A	N/A
CAP	Common Carp	12	4.00	0.33	1.00	3.00
SMB	Smallmouth Bass	3	1.00	0.20	0.50	2.29
WAE	Walleye	17	5.67	1.17	2.82	6.33
YEP	Yellow Perch	43	14.33	2.00	10.50	27.94
Total Fish/Set:			91.33	* 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 24*		
					25%	50%	75%
BLB	Black Bullhead	77.47	25.82	0.57	0.29	0.44	0.66
BLC	Black Crappie	2.81	0.94	0.22	0.15	0.20	0.26
BLG	Bluegill	3.21	1.07	0.17	N/A	N/A	N/A
CCF	Channel Catfish	46.63	15.54	1.55	N/A	N/A	N/A
CAP	Common Carp	39.08	13.03	3.26	1.87	3.41	5.24
SMB	Smallmouth Bass	2.04	0.68	0.68	0.86	1.08	1.50
WAE	Walleye	33.56	11.19	1.97	1.20	1.81	2.69
YEP	Yellow Perch	11.39	3.80	0.26	0.10	0.13	0.18
Total Pounds Fish/Set:			72.06	* 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: 07/13/2015
 Last Lift Date: 07/16/2015
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24*		
				25%	50%	75%
BLB	Black Bullhead	425	47.22	0.71	3.75	25.65
BLC	Black Crappie	47	5.22	1.83	6.50	21.16
BLG	Bluegill	44	4.89	7.54	23.13	62.50
CCF	Channel Catfish	73	8.11	N/A	N/A	N/A
HSF	Hybrid Sunfish	2	0.22	N/A	N/A	N/A
PMK	Pumpkinseed	1	0.11	0.74	2.00	4.24
WAE	Walleye	3	0.33	0.27	0.60	1.24
Total Fish/Set:			66.11	* 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 24*		
					25%	50%	75%
BLB	Black Bullhead	228.31	25.37	0.54	0.28	0.43	0.62
BLC	Black Crappie	11.64	1.29	0.25	0.18	0.24	0.33
BLG	Bluegill	10.94	1.22	0.25	0.13	0.18	0.25
CCF	Channel Catfish	98.14	10.90	1.34	N/A	N/A	N/A
HSF	Hybrid Sunfish	0.46	0.05	0.23	N/A	N/A	N/A
PMK	Pumpkinseed	0.28	0.03	0.28	0.10	0.13	0.18
WAE	Walleye	5.62	0.62	1.87	0.80	1.50	2.78
Total Pounds Fish/Set:			39.49	* Quartiles for Mean Weight			

Electrofishing Catch Summary for EF

Standard electrofishing

Total run-time for all stations: 01:01:00
Total on-time for all stations: 01:00:47
First Sampling Date: 05/27/2015
Last Sampling Date: 05/27/2015
Daylight Sampling: Yes
Target Species: All ages largemouth bass, All ages smallmouth 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	19	18.69	18.76	22.84	22.47	22.55	1.20
SMB	Smallmouth Bass	49	48.20	48.37	49.10	48.30	48.47	1.00

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 07/13/2015 and 07/16/2015)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>SMB</u>	<u>WAE</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	1	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-	-	-
5.50 - 5.99	-	-	4	-	-	-	-	-
6.00 - 6.49	-	-	7	-	-	-	-	-
6.50 - 6.99	-	4	5	-	-	-	-	-
7.00 - 7.49	-	3	-	-	-	-	-	1
7.50 - 7.99	-	5	-	-	-	-	2	14
8.00 - 8.49	-	1	-	-	-	-	1	13
8.50 - 8.99	-	-	-	-	-	2	2	8
9.00 - 9.49	19	-	-	-	-	-	-	3
9.50 - 9.99	60	-	-	-	-	-	-	4
10.00 - 10.49	45	-	-	-	-	-	-	-
10.50 - 10.99	10	-	-	-	-	-	-	-
11.00 - 11.49	3	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-
12.00 - 12.99	-	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	1	-	-
15.00 - 15.99	-	-	-	2	6	-	3	-
16.00 - 16.99	-	-	-	-	8	-	-	-
17.00 - 17.99	-	-	-	-	11	-	1	-
18.00 - 18.99	-	-	-	4	4	-	1	-
19.00 - 19.99	-	-	-	2	-	-	-	-
20.00 - 20.99	-	-	-	1	1	-	1	-
21.00 - 21.99	-	-	-	1	-	-	1	-
22.00 - 22.99	-	-	-	2	-	-	3	-
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>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>SMB</u>	<u>WAE</u>	<u>YEP</u>
Total	137	13	17	12	30	3	16	43
Min. Length	9.02	6.69	4.37	15.75	15.35	8.50	7.56	7.13
Max. Length	11.18	8.11	6.81	22.99	20.12	14.84	24.57	9.88
Mean Length	9.94	7.35	6.16	19.61	17.19	10.66	16.14	8.36
# Measured	137	13	17	10	30	3	16	33
No Lengths for	0	0	2	2	0	0	1	10

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 07/13/2015 and 07/16/2015)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CCF</u>	<u>HSF</u>	<u>PMK</u>	<u>WAE</u>
< 3.00	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-
5.00 - 5.49	-	-	2	-	-	-	-
5.50 - 5.99	-	-	7	-	-	-	-
6.00 - 6.49	-	-	16	-	-	-	-
6.50 - 6.99	-	2	7	-	1	1	-
7.00 - 7.49	-	6	2	-	1	-	-
7.50 - 7.99	-	35	1	-	-	-	-
8.00 - 8.49	-	3	5	-	-	-	-
8.50 - 8.99	-	-	-	-	-	-	-
9.00 - 9.49	38	-	2	1	-	-	-
9.50 - 9.99	121	-	-	-	-	-	-
10.00 - 10.49	145	1	-	-	-	-	-
10.50 - 10.99	90	-	-	-	-	-	-
11.00 - 11.49	29	-	-	-	-	-	-
11.50 - 11.99	3	-	-	-	-	-	-
12.00 - 12.99	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-
14.00 - 14.99	-	-	-	1	-	-	-
15.00 - 15.99	-	-	-	19	-	-	1
16.00 - 16.99	-	-	-	27	-	-	-
17.00 - 17.99	-	-	-	16	-	-	1
18.00 - 18.99	-	-	-	7	-	-	1
19.00 - 19.99	-	-	-	2	-	-	-
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>BLG</u>	<u>CCF</u>	<u>HSF</u>	<u>PMK</u>	<u>WAE</u>
Total	426	47	42	73	2	1	3
Min. Length	9.13	6.54	5.28	9.37	6.89	6.93	15.39
Max. Length	11.57	10.39	9.49	19.41	7.09	6.93	18.07
Mean Length	10.25	7.77	6.68	16.47	6.99	6.93	16.98
# Measured	209	47	42	51	2	1	3
No Lengths for	216	0	2	22	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 05/27/2015)

	<u>LMB</u>	<u>SMB</u>
< 3.00	-	-
3.00 - 3.49	-	-
3.50 - 3.99	-	-
4.00 - 4.49	-	1
4.50 - 4.99	1	3
5.00 - 5.49	-	1
5.50 - 5.99	-	-
6.00 - 6.49	-	-
6.50 - 6.99	5	-
7.00 - 7.49	2	1
7.50 - 7.99	-	-
8.00 - 8.49	-	-
8.50 - 8.99	-	8
9.00 - 9.49	-	7
9.50 - 9.99	1	4
10.00 - 10.49	-	1
10.50 - 10.99	1	-
11.00 - 11.49	1	1
11.50 - 11.99	3	1
12.00 - 12.99	1	-
13.00 - 13.99	-	6
14.00 - 14.99	-	7
15.00 - 15.99	1	1
16.00 - 16.99	-	3
17.00 - 17.99	1	-
18.00 - 18.99	-	2
19.00 - 19.99	-	2
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>	<u>SMB</u>
Total	19	49
Min. Length	4.53	4.41
Max. Length	20.28	19.69
Mean Length	10.86	11.43
# Measured	19	49
No Lengths for	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

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 07/17/2015), and is therefore subject to change at any time.



MNDNR

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.

Lake Survey Report revision: 20150625-RJE. Data Date: 07/17/2015 at 8:24 am .

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Fish

Survey Type: Standard Survey

DOW Number: 32-0018-00

Survey ID Date: 07/13/2015

Survey Status: Field Work Complete

The following 20 (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. Other Species (added to revision 03/24/2009)
19. Water Quality (Winter Observations) (added to revision 01/21/2010)
20. 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 07/17/2015 may not be reflected in the Distribution tables until after 12:30 pm on 07/17/2015.

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