



Minnesota Department of Natural Resources
 Fisheries Management
LAKE SURVEY REPORT



DRAFT VERSION - PRELIMINARY DATA (AS OF 08/04/2016)

Lake Name: Clear

Survey Type: Standard Survey

DOW Number: 46-0096-00

Survey ID Date: 07/25/2016

Lake Identification

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

DNR Sounding Map Number: D0153
 Alternate Lake Class ID: N/A

Lake Location

Primary County: Martin

Nearest Town: Ceylon

Legal Descriptions

Lake Center: Township - 101N Range - 32W Section - 26
 PLS Section Lake Center: 10103226

All Legal Descriptions:

Martin County: Township - 101N Range - 32W Sections - 22, 23, 26, 27

Area Office

Area Name: Windom
 Region Name: Southern

ORG Code: F418
 Region Number: 4

Lake Access

(Information based on Re-Survey dated 07/24/1995)

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

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

Lake Characteristics

Lake Area (planimetered acres): 273.00	GIS Shoreline Length (miles): 2.65
GIS Lake Area (acres): 267.34	Maximum Fetch (miles): 1.00
DOW Lake Area (acres): 261.00	Fetch Orientation (degrees): 315
Littoral Area (acres): 267.34	USGS Quad Map Number: X11c
Area in MN (acres): 267.34	USGS Quad 24K GIS Index: 4721
Maximum Depth (feet): 7.0	
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: E Fork Des Moines R
 Watershed Number: 5
 Watershed size (acres): 14,567

Surveys and Investigations

Initial Survey: 07/07/1986.
 Re-Survey: 07/28/2003, 07/24/1995.
 Population Assessment: 07/30/2012, 08/06/2007, 07/26/1999, 07/23/1991.
 Special Assessment: 05/03/2001, 10/05/1999, 07/29/1951.
 Dissolved Oxygen Check: 02/11/2016, 02/24/2015, 01/03/2014, 01/08/2013, 12/28/2012, 01/11/2012, 01/18/2011,
 01/15/2010.
 Standard Survey: 07/25/2016.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/01/2016	Normal	-2.75	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	Top of middle culvert on north side of lake.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/01/2016	Normal	-2.75	Above or below Benchmark
	07/30/2012	Normal	3.60	Above or below Benchmark
	08/07/2007	Low	-3.70	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	-3.70	08/07/2007	3.60	07/30/2012	7.30	-0.95	Above or below Benchmark (3)

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	08/01/2016	6.7	Surface	77.0	8.0
			1.0	77.0	7.9
			2.0	77.0	8.0
			3.0	77.0	7.9
			4.0	77.0	7.9
			5.0	77.0	7.9
			6.0	76.8	7.8

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	08/01/2016	Surface	0.9	9.20	160	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
 First Set Date: 08/01/2016
 Last Lift Date: 08/04/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	3	1.00	0.75	2.58	6.96
BLB	Black Bullhead	6	2.00	30.34	75.58	150.62
BLC	Black Crappie	2	0.67	1.41	3.71	13.75
CCF	Channel Catfish	5	1.67	N/A	N/A	N/A
CAP	Common Carp	8	2.67	1.00	3.33	13.75
WAE	Walleye	8	2.67	2.28	6.83	18.06
WHC	White Crappie	44	14.67	0.50	2.00	8.42
YEP	Yellow Perch	4	1.33	2.65	8.00	25.00
Total Fish/Set:			26.67	* 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	10.69	3.56	3.56	N/A	N/A	N/A
BLB	Black Bullhead	2.39	0.80	0.40	0.17	0.26	0.39
BLC	Black Crappie	0.74	0.25	0.37	0.16	0.25	0.35
CCF	Channel Catfish	20.61	6.87	4.12	N/A	N/A	N/A
CAP	Common Carp	17.53	5.84	2.19	0.81	1.98	3.70
WAE	Walleye	6.60	2.20	0.82	1.01	1.53	2.30
WHC	White Crappie	5.61	1.87	0.13	0.15	0.21	0.32
YEP	Yellow Perch	0.45	0.15	0.11	0.13	0.21	0.31
Total Pounds Fish/Set:			21.54	* 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: 08/01/2016
 Last Lift Date: 08/04/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BIB	Bigmouth Buffalo	19	2.11	0.17	0.38	1.04
BLB	Black Bullhead	73	8.11	11.50	42.00	132.61
BLC	Black Crappie	148	16.44	1.17	4.88	20.50
CCF	Channel Catfish	12	1.33	N/A	N/A	N/A
CAP	Common Carp	15	1.67	1.00	2.44	5.51
WAE	Walleye	20	2.22	0.50	1.33	2.95
WHC	White Crappie	116	12.89	0.25	1.83	5.96
WTS	White Sucker	1	0.11	0.34	0.88	2.58
YEB	Yellow Bullhead	16	1.78	0.50	1.13	2.50
YEP	Yellow Perch	3	0.33	0.33	1.37	3.76
Total Fish/Set:			47.00	* 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%
BIB	Bigmouth Buffalo	54.39	6.04	2.86	2.56	3.75	5.83
BLB	Black Bullhead	33.43	3.71	0.46	0.18	0.28	0.40
BLC	Black Crappie	32.15	3.57	0.22	0.22	0.34	0.50
CCF	Channel Catfish	31.56	3.51	2.63	N/A	N/A	N/A
CAP	Common Carp	48.47	5.39	3.23	1.42	2.92	4.58
WAE	Walleye	14.19	1.58	0.71	0.82	1.44	2.28
WHC	White Crappie	18.24	2.03	0.16	0.27	0.40	0.63
WTS	White Sucker	0.37	0.04	0.37	1.05	1.47	2.04
YEB	Yellow Bullhead	8.14	0.90	0.51	0.31	0.48	0.67
YEP	Yellow Perch	0.73	0.08	0.24	0.11	0.18	0.30
Total Pounds Fish/Set:			26.85	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 08/01/2016 and 08/04/2016)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	4	-
5.00 - 5.49	-	-	-	-	-	-	2	-
5.50 - 5.99	-	-	-	-	-	-	-	-
6.00 - 6.49	-	-	-	-	-	-	9	1
6.50 - 6.99	-	-	-	-	-	-	16	-
7.00 - 7.49	-	-	-	-	-	-	4	3
7.50 - 7.99	-	-	1	-	-	-	5	-
8.00 - 8.49	-	-	-	-	-	-	1	-
8.50 - 8.99	-	-	-	-	-	-	2	-
9.00 - 9.49	-	-	-	-	-	-	1	-
9.50 - 9.99	-	2	1	-	-	-	-	-
10.00 - 10.49	-	2	-	-	-	1	-	-
10.50 - 10.99	-	2	-	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	1	-	-
11.50 - 11.99	-	-	-	-	-	2	-	-
12.00 - 12.99	-	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	1	-	-	-	-
14.00 - 14.99	-	-	-	2	-	-	-	-
15.00 - 15.99	-	-	-	3	-	2	-	-
16.00 - 16.99	1	-	-	-	-	1	-	-
17.00 - 17.99	1	-	-	-	1	1	-	-
18.00 - 18.99	1	-	-	-	2	-	-	-
19.00 - 19.99	-	-	-	1	-	-	-	-
20.00 - 20.99	-	-	-	-	1	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	1	-	-	-	-
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	-	-	-	-	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>CAP</u>	<u>CCF</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
Total	3	6	2	8	5	8	44	4
Min. Length	16.14	9.72	7.83	13.98	17.80	10.47	4.65	6.42
Max. Length	18.43	10.75	9.53	23.78	31.38	17.32	9.33	7.48
Mean Length	17.30	10.20	8.68	16.40	21.41	14.00	6.71	7.10
# Measured	3	6	2	8	5	7	42	4
No Lengths for	0	0	0	0	0	1	2	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 TN

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

(Field work conducted between 08/01/2016 and 08/04/2016)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	7	-	-	-	-	-	-	-
4.50 - 4.99	-	-	1	-	-	-	4	-	-	-
5.00 - 5.49	-	-	8	-	-	-	7	-	-	-
5.50 - 5.99	-	-	19	-	-	-	-	-	-	-
6.00 - 6.49	-	-	8	-	-	-	13	-	-	-
6.50 - 6.99	-	-	24	-	-	-	52	-	-	-
7.00 - 7.49	-	1	9	-	-	-	28	-	-	1
7.50 - 7.99	-	-	23	-	-	-	7	-	-	-
8.00 - 8.49	-	1	25	-	-	-	4	-	-	1
8.50 - 8.99	-	1	16	-	-	-	-	-	-	1
9.00 - 9.49	-	3	10	-	-	-	1	-	-	-
9.50 - 9.99	-	26	-	-	-	2	-	1	9	-
10.00 - 10.49	-	32	-	-	-	1	-	-	5	-
10.50 - 10.99	-	7	-	-	-	3	-	-	2	-
11.00 - 11.49	-	2	-	-	-	1	-	-	-	-
11.50 - 11.99	-	-	-	-	-	2	-	-	-	-
12.00 - 12.99	-	-	-	-	-	1	-	-	-	-
13.00 - 13.99	-	-	-	3	-	3	-	-	-	-
14.00 - 14.99	1	-	-	1	-	3	-	-	-	-
15.00 - 15.99	5	-	-	2	-	1	-	-	-	-
16.00 - 16.99	5	-	-	1	-	2	-	-	-	-
17.00 - 17.99	7	-	-	2	2	1	-	-	-	-
18.00 - 18.99	-	-	-	1	3	-	-	-	-	-
19.00 - 19.99	-	-	-	-	6	-	-	-	-	-
20.00 - 20.99	1	-	-	1	1	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	1	-	-	-	-	-	-
24.00 - 24.99	-	-	-	2	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	-	-	-
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>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	19	73	150	15	12	20	116	1	16	3
Min. Length	14.69	7.09	4.09	13.66	17.72	9.72	4.72	9.84	9.53	7.28
Max. Length	20.83	11.38	9.41	27.80	20.12	17.09	9.21	9.84	10.67	8.58
Mean Length	16.74	10.02	7.11	18.45	19.13	12.94	6.77	9.84	10.00	7.97
# Measured	19	73	135	15	12	19	115	1	16	3
No Lengths for	0	0	13	0	0	1	1	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

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 08/04/2016), 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

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Lake Name: Clear

Survey Type: Standard Survey

DOW Number: 46-0096-00

Survey ID Date: 07/25/2016

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 after noon on 08/04/2016 may not be reflected in the Distribution tables until 08/05/2016.

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