

Lake Name: Crystal
DOW Number: 19-0027-00

Survey Type: Targeted Survey
Survey ID Date: 06/30/2021

TARGETED SURVEY
Gill Netting
Water Quality Measurement

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 34
DNR Sounding Map Number: C0988
Alternate Lake Class ID: N/A

Lake Location

Primary County: Dakota
Nearest Town: Lakeville

Legal Descriptions

Lake Center: Township - 115N Range - 20W Section - 31
PLS Section Lake Center: 11502031

All Legal Descriptions:

Dakota County: Township - 114N Range - 20W Section - 6
Township - 115N Range - 20W Sections - 31, 32
Township - 115N Range - 21W Section - 36

Area Office

Area Name: Metro East
Region Name: Central
ORG Code: F313
Region Number: 3

Lake Access

(Information based on Population Assessment dated 05/23/2011)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	City	Open to Public use	Concrete	N/A

Lake Characteristics

Lake Area (planimetered acres): 280.00	GIS Shoreline Length (miles): 6.13
GIS Lake Area (acres): 293.24	Maximum Fetch (miles): 1.25
DOW Lake Area (acres): 287.00	Fetch Orientation (degrees): 90
Littoral Area (acres): 208.00	USGS Quad Map Number: T16a
Area in MN (acres): 288.64	USGS Quad 24K GIS Index: 3832
Maximum Depth (feet): 37.0	
Mean Depth (feet): 9.0	

Watershed Characteristics

Major Watershed

Name: Lower Minnesota River
 Watershed Number: 33
 Watershed size (acres): 1,174,348

Minor Watershed

Name: Minnesota R
 Watershed Number: 124
 Watershed size (acres): 11,328

Surveys and Investigations

Initial Survey: 08/29/1957.
Re-Survey: 07/11/2005, 07/10/1995, 07/09/1985, 07/17/1975.
Population Assessment: 05/23/2011, 07/10/2000, 07/09/1990, 07/07/1980.
Special Assessment: 07/08/1969.
Dissolved Oxygen Check: 02/07/2011.
External Management Survey: 08/29/2006.
Standard Survey: 05/26/2017.
Targeted Survey: 05/26/2016, 08/04/2015.

Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water Temperature (°F)	Dissolved Oxygen (ppm)
SWQ - 1	06/30/2021	22.0	Surface	78.4	9.3
			2.0	78.4	9.3
			4.0	78.4	9.3
			5.0	78.4	9.3
			6.0	78.4	9.3
			8.0	78.3	9.3
			10.0	78.3	9.3
			12.0	77.5	9.8
			14.0	75.7	7.9
			16.0	74.5	6.7
			18.0	68.7	4.3
			20.0	64.9	4.2
			22.0	59.4	1.2

Field Measurements of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
SWQ - 1	06/30/2021	Surface	12.0	N/A	N/A	N/A	N/A

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 5
 First Set Date: 06/30/2021
 Last Lift Date: 07/02/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 34*		
				25%	50%	75%
BLB	Black Bullhead	18	3.60	3.08	12.75	47.63
BLC	Black Crappie	58	11.60	0.84	2.50	8.40
BLG	Bluegill	152	30.40	N/A	N/A	N/A
HSF	Hybrid Sunfish	12	2.40	N/A	N/A	N/A
LMB	Largemouth Bass	12	2.40	0.33	0.50	1.50
NOP	Northern Pike	15	3.00	2.33	5.08	9.17
PMK	Pumpkinseed	9	1.80	N/A	N/A	N/A
TME	Tiger Muskellunge	4	0.80	N/A	N/A	N/A
WAE	Walleye	11	2.20	1.20	2.75	5.25
WTS	White Sucker	1	0.20	0.50	1.50	3.33
YEB	Yellow Bullhead	6	1.20	1.00	2.50	8.00
YEP	Yellow Perch	24	4.80	3.68	11.50	28.35
Total Fish/Set:			64.40	* 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 34*		
					25%	50%	75%
BLB	Black Bullhead	19.03	3.81	1.06	0.25	0.43	0.60
BLC	Black Crappie	15.08	3.02	0.26	0.14	0.21	0.33
BLG	Bluegill	29.32	5.86	0.19	N/A	N/A	N/A
HSF	Hybrid Sunfish	3.68	0.74	0.31	N/A	N/A	N/A
LMB	Largemouth Bass	11.99	2.40	1.00	0.42	0.64	1.06
NOP	Northern Pike	46.69	9.34	3.11	1.50	2.00	2.74
PMK	Pumpkinseed	2.45	0.49	0.27	N/A	N/A	N/A
TME	Tiger Muskellunge	10.02	2.00	2.50	N/A	N/A	N/A
WAE	Walleye	16.18	3.24	1.47	1.12	1.71	2.61
WTS	White Sucker	0.44	0.09	0.44	1.63	2.05	2.42
YEB	Yellow Bullhead	3.85	0.77	0.64	0.37	0.53	0.70
YEP	Yellow Perch	4.19	0.84	0.17	0.11	0.15	0.21
Total Pounds Fish/Set:			32.59	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 06/30/2021 and 07/02/2021)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>TME</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	4	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	1	12	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	1	-	-	-	-	1	-	-	-	-	-
5.00 - 5.49	-	-	4	-	-	-	-	-	-	-	-	-
5.50 - 5.99	-	5	7	-	-	-	-	-	-	-	-	1
6.00 - 6.49	-	3	20	1	-	-	1	-	-	-	-	3
6.50 - 6.99	-	4	22	2	-	-	2	-	-	-	-	-
7.00 - 7.49	-	10	8	-	-	-	1	-	-	-	-	3
7.50 - 7.99	-	8	-	-	-	-	1	-	-	-	-	3
8.00 - 8.49	-	7	-	-	-	-	-	-	-	-	-	5
8.50 - 8.99	-	3	-	-	-	-	-	-	-	-	-	1
9.00 - 9.49	-	4	-	-	1	-	-	-	-	-	2	1
9.50 - 9.99	-	1	-	-	-	-	-	-	-	-	1	-
10.00 - 10.49	-	-	-	-	-	-	-	-	-	1	-	-
10.50 - 10.99	-	-	-	-	-	-	-	-	-	-	-	-
11.00 - 11.49	2	1	-	-	1	-	-	-	1	-	-	-
11.50 - 11.99	3	-	-	-	1	-	-	-	-	-	2	-
12.00 - 12.99	4	-	-	-	3	-	-	-	-	-	-	-
13.00 - 13.99	1	-	-	-	1	-	-	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	2	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	1	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-	1	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	2	-	2	2	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	2	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	1	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	1	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	2	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	1	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	1	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	1	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>TME</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	10	48	77	3	9	11	6	3	4	1	5	17
Min. Length	11.06	4.41	3.66	6.34	9.25	17.32	4.76	20.28	11.46	10.28	9.02	5.87
Max. Length	13.11	11.18	7.44	6.93	15.98	33.62	7.56	26.18	20.63	10.28	11.61	9.09
Mean Length	12.06	7.52	5.96	6.72	12.69	24.14	6.44	22.38	17.81	10.28	10.21	7.72
# Measured	10	48	75	3	9	11	6	3	4	1	5	15
No Lengths for	0	0	2	0	0	0	0	0	0	0	0	2

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 Metro East Area Fisheries Supervisor: _____

Date Approved By Central Region Fisheries Manager: _____

This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 07/30/2021), and is therefore subject to change at any time.



Minnesota Department of Natural Resources



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Lake Survey Report revision: 20210209-RJE. Data Date: 07/30/2021 at 10:01 am .

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REPORT OVERVIEW - FOR OFFICE USE ONLY

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Lake Name: Crystal
DOW Number: 19-0027-00

Survey Type: Targeted Survey
Survey ID Date: 06/30/2021

Gill Netting, Water Quality Measurement

Survey Status: Proposed

The following 25 (of 33) report components are not included in this Lake Survey Report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History¹
4. Water Level History - Readings*
5. Water Level History - Station Summary*
6. Lake Inlets
7. Additional Inlet Information
8. Lake Outlets
9. Additional Outlet Information
10. Water Control Structure (Dam)
11. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations²
12. Resorts And Campgrounds
13. Fish Spawning Conditions
14. Erosion And Pollution
15. Fish Diseases And Parasites
16. Aquatic Vegetation And Shoalwater Substrates
17. Water Quality (Winter Observations) (added to revision 01/21/2010)
18. Laboratory Analysis Of Water Chemistry
19. Catch Summary (Pre-1993 Format) (added to revision 20201001)
20. Length At Capture With Last Incremental Length*
21. Back-Calculated Lengths
22. Age Class Frequency Distributions
23. Other Species (added to revision 03/24/2009)
24. Status Of Fishery And Field Notes
25. 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 07/30/2021 may not be reflected in the Distribution tables until after 12:30 pm on 07/30/2021.

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