

Lake Name: Lotus

Survey Type: Standard Survey

DOW Number: 10-0006-00

Survey ID Date: 05/26/2021

Lake Identification

Alternate Lake Name: Long
Primary Lake Class ID: 24

DNR Sounding Map Number: C0089
Alternate Lake Class ID: N/A

Lake Location

Primary County: Carver

Nearest Town: Chanhassen

Legal Descriptions

Lake Center: Township - 116N Range - 23W Section - 1
PLS Section Lake Center: 11602301

All Legal Descriptions:

Carver County: Township - 116N Range - 23W Sections - 1, 12

Area Office

Area Name: Metro West
Region Name: Central

ORG Code: F314
Region Number: 3

Lake Access

(Information based on Standard Survey dated 07/14/2015)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	City	Open to Public use	Concrete	City-owned access on south end of lake; 12 listed parking spaces on top of hill and across street.

Lake Characteristics

Lake Area (planimetered acres): 246.00	GIS Shoreline Length (miles): 4.82
GIS Lake Area (acres): 245.10	Maximum Fetch (miles): 1.60
DOW Lake Area (acres): 272.00	Fetch Orientation (degrees): 315
Littoral Area (acres): 182.00	USGS Quad Map Number: S15a
Area in MN (acres): 245.15	USGS Quad 24K GIS Index: 3630
Maximum Depth (feet): 29.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

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

Minor Watershed

Name: Purgatory Cr
Watershed Number: 118
Watershed size (acres): 20,591

Surveys and Investigations

Initial Survey: 06/21/1954.
Re-Survey: 08/08/1994, 08/20/1984, 08/22/1979.
Population Assessment: 07/12/2010, 07/06/2004, 07/12/1999, 08/23/1989, 07/25/1974.
Special Assessment: 07/10/2006.
External Management Survey: 10/06/1998.
Standard Survey: 07/14/2015.
Targeted Survey: 07/06/2015.

Dissolved Oxygen and Temperature Profile of Lake Water

<u>Station ID</u>	<u>Sampling Date</u>	<u>Bottom Depth (Feet)</u>	<u>Sample Depth (Feet)</u>	<u>Water Temperature (°F)</u>	<u>Dissolved Oxygen (ppm)</u>
WQ - 1	07/06/2021	25.0	Surface	82.0	7.7
			2.0	82.2	7.7
			4.0	82.4	7.6
			6.0	82.6	7.6
			8.0	82.6	7.6
			10.0	82.8	7.5
			12.0	81.9	6.7
			13.0	79.0	5.0
			14.0	77.7	0.8
			18.0	70.5	0.1
			22.0	64.2	0.1

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	07/06/2021	25.0	5.0	N/A	N/A	Brown Grn	N/A

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 6
 First Set Date: 07/06/2021
 Last Lift Date: 07/09/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BLC	Black Crappie	51	8.50	2.50	6.91	16.50
BLG	Bluegill	241	40.17	N/A	N/A	N/A
BRB	Brown Bullhead	6	1.00	0.39	0.83	2.00
LMB	Largemouth Bass	5	0.83	0.25	0.50	0.83
NOP	Northern Pike	4	0.67	1.50	3.75	7.29
PMK	Pumpkinseed	1	0.17	N/A	N/A	N/A
WAE	Walleye	57	9.50	1.17	2.82	6.33
WTS	White Sucker	2	0.33	0.40	1.00	2.17
YEB	Yellow Bullhead	18	3.00	0.50	2.00	7.51
YEP	Yellow Perch	13	2.17	2.00	10.50	27.94
Total Fish/Set:			66.33	¹ 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 ²	Quartiles for Lake Class 24 ¹		
					25%	50%	75%
BLC	Black Crappie	11.27	1.88	0.22	0.15	0.20	0.26
BLG	Bluegill	51.58	8.60	0.22	N/A	N/A	N/A
BRB	Brown Bullhead	7.75	1.29	1.29	0.50	0.75	1.00
LMB	Largemouth Bass	3.64	0.61	0.73	0.40	0.60	1.00
NOP	Northern Pike	21.95	3.66	5.49	2.02	2.68	3.50
PMK	Pumpkinseed	0.18	0.03	0.18	N/A	N/A	N/A
WAE	Walleye	87.10	14.52	1.54	1.20	1.81	2.69
WTS	White Sucker	1.01	0.17	0.50	1.55	2.00	2.38
YEB	Yellow Bullhead	18.28	3.05	1.02	0.46	0.61	0.82
YEP	Yellow Perch	2.04	0.34	0.17	0.10	0.13	0.18
Total Pounds Fish/Set:			34.13	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Net Catch Summary by Numbers for TN

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

Number of Sets: 9
 First Set Date: 07/06/2021
 Last Lift Date: 07/09/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BLC	Black Crappie	131	14.56	1.83	6.50	21.16
BLG	Bluegill	717	79.67	7.54	23.13	62.50
BRB	Brown Bullhead	6	0.67	0.22	0.50	1.40
CAP	Common Carp	3	0.33	0.38	0.74	2.00
GOS	Golden Shiner	4	0.44	0.17	0.30	0.83
HSF	Hybrid Sunfish	4	0.44	N/A	N/A	N/A
LMB	Largemouth Bass	1	0.11	0.20	0.33	0.67
NOP	Northern Pike	1	0.11	N/A	N/A	N/A
PMK	Pumpkinseed	3	0.33	0.74	2.00	4.24
WAE	Walleye	5	0.56	0.27	0.60	1.24
YEB	Yellow Bullhead	18	2.00	0.88	2.15	5.68
YEP	Yellow Perch	2	0.22	0.25	0.60	1.67
Total Fish/Set:			99.44	¹ 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 ²	Quartiles for Lake Class 24 ¹		
					25%	50%	75%
BLC	Black Crappie	28.68	3.19	0.22	0.18	0.24	0.33
BLG	Bluegill	99.69	11.08	0.14	0.13	0.18	0.25
BRB	Brown Bullhead	6.75	0.75	1.12	0.50	0.68	1.00
CAP	Common Carp	22.50	2.50	7.50	2.58	4.07	6.02
GOS	Golden Shiner	0.47	0.05	0.12	0.07	0.10	0.13
HSF	Hybrid Sunfish	0.84	0.09	0.21	N/A	N/A	N/A
LMB	Largemouth Bass	0.14	0.02	0.14	0.15	0.31	0.91
NOP	Northern Pike	7.51	0.83	7.51	N/A	N/A	N/A
PMK	Pumpkinseed	0.41	0.05	0.14	0.10	0.13	0.18
WAE	Walleye	4.04	0.45	0.81	0.80	1.50	2.78
YEB	Yellow Bullhead	19.71	2.19	1.10	0.50	0.67	0.84
YEP	Yellow Perch	0.28	0.03	0.14	0.10	0.13	0.20
Total Pounds Fish/Set:			21.23	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Electrofishing Catch Summary for EF

Standard electrofishing

Number of Stations: 4
Total run-time for all stations: 01:50:00
Total on-time for all stations: 01:50:00
First Sampling Date: 05/26/2021
Last Sampling Date: 05/26/2021
Daylight Sampling: No
Target Species: All ages largemouth 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	63	34.36	34.36	77.54	42.30	42.30	1.23

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 07/06/2021 and 07/09/2021)

	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	11	-	-	-	-	-	-	-	-
4.50 - 4.99	-	6	-	-	-	-	-	-	-	-
5.00 - 5.49	1	16	-	-	-	-	-	-	-	-
5.50 - 5.99	6	27	-	-	-	1	-	-	-	2
6.00 - 6.49	5	34	-	-	-	-	-	-	-	-
6.50 - 6.99	5	62	-	-	-	-	-	1	-	4
7.00 - 7.49	6	81	-	-	-	-	-	-	1	6
7.50 - 7.99	14	4	-	-	-	-	-	-	-	-
8.00 - 8.49	11	-	-	-	-	-	-	-	-	-
8.50 - 8.99	1	-	-	-	-	-	-	-	-	1
9.00 - 9.49	1	-	-	-	-	-	-	-	1	-
9.50 - 9.99	-	-	-	-	-	-	-	-	1	-
10.00 - 10.49	-	-	-	2	-	-	1	-	1	-
10.50 - 10.99	-	-	-	1	-	-	-	-	1	-
11.00 - 11.49	-	-	-	1	-	-	2	-	-	-
11.50 - 11.99	-	-	-	-	-	-	8	-	1	-
12.00 - 12.99	-	-	2	1	-	-	12	1	7	-
13.00 - 13.99	-	-	3	-	-	-	6	-	3	-
14.00 - 14.99	-	-	1	-	-	-	-	-	2	-
15.00 - 15.99	-	-	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	4	-	-	-
18.00 - 18.99	-	-	-	-	-	-	11	-	-	-
19.00 - 19.99	-	-	-	-	-	-	6	-	-	-
20.00 - 20.99	-	-	-	-	-	-	2	-	-	-
21.00 - 21.99	-	-	-	-	-	-	2	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	1	-	2	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	1	-	-	-	-	-
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	-	-	-	-	1	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-

	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	50	241	6	5	4	1	56	2	18	13
Min. Length	5.12	4.09	12.91	10.24	24.80	5.94	10.28	6.77	7.09	5.98
Max. Length	9.25	7.60	14.72	12.91	33.46	5.94	24.21	12.91	14.37	8.94
Mean Length	7.35	6.50	13.58	11.06	29.08	5.94	15.73	9.84	11.99	7.10
# Measured	50	226	6	5	4	1	56	2	18	7
No Lengths for	1	15	0	0	0	0	1	0	0	6

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 07/06/2021 and 07/09/2021)

	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>CAP</u>	<u>GOS</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	1	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	10	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	2	102	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	5	80	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	1	38	-	-	-	1	-	-	1	-	-	-
5.00 - 5.49	1	116	-	-	-	1	-	-	1	-	-	1
5.50 - 5.99	10	110	-	-	-	-	-	-	-	-	-	-
6.00 - 6.49	27	58	-	-	1	-	-	-	1	-	-	-
6.50 - 6.99	16	119	-	-	2	1	1	-	-	-	-	-
7.00 - 7.49	10	81	-	-	1	-	-	-	-	-	-	-
7.50 - 7.99	28	4	-	-	-	1	-	-	-	-	1	1
8.00 - 8.49	18	-	-	-	-	-	-	-	-	-	-	-
8.50 - 8.99	7	-	-	-	-	-	-	-	-	-	-	-
9.00 - 9.49	3	-	-	-	-	-	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	-	-	-	-	1	-
10.00 - 10.49	1	-	-	-	-	-	-	-	-	-	-	-
10.50 - 10.99	1	-	1	-	-	-	-	-	-	1	1	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	1	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	-	1	-	-	-	-	-	-	2	10	-
13.00 - 13.99	-	-	3	-	-	-	-	-	-	-	3	-
14.00 - 14.99	-	-	1	-	-	-	-	-	-	-	2	-
15.00 - 15.99	1	-	-	-	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-	-	1	-	-
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	-	-	-	2	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	1	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	1	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-
	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>CAP</u>	<u>GOS</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	131	719	6	3	4	4	1	1	3	5	18	2
Min. Length	3.74	2.99	10.94	24.61	6.46	4.76	6.61	32.68	4.65	10.94	7.68	5.39
Max. Length	15.00	7.87	14.06	26.65	7.09	7.52	6.61	32.68	6.18	17.52	14.41	7.68
Mean Length	7.13	5.53	12.89	25.35	6.83	6.10	6.61	32.68	5.43	13.14	12.39	6.54
# Measured	131	485	6	3	4	4	1	1	3	5	18	2
No Lengths for	0	232	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

Length Frequency Distribution for EF

Standard electrofishing

(Field work conducted on 05/26/2021)

	<u>LMB</u>
< 3.00	-
3.00 - 3.49	-
3.50 - 3.99	-
4.00 - 4.49	-
4.50 - 4.99	-
5.00 - 5.49	-
5.50 - 5.99	-
6.00 - 6.49	-
6.50 - 6.99	-
7.00 - 7.49	2
7.50 - 7.99	1
8.00 - 8.49	1
8.50 - 8.99	8
9.00 - 9.49	-
9.50 - 9.99	1
10.00 - 10.49	2
10.50 - 10.99	3
11.00 - 11.49	3
11.50 - 11.99	6
12.00 - 12.99	8
13.00 - 13.99	6
14.00 - 14.99	10
15.00 - 15.99	7
16.00 - 16.99	-
17.00 - 17.99	2
18.00 - 18.99	2
19.00 - 19.99	1
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	63
Min. Length	7.24
Max. Length	19.02
Mean Length	12.57
# Measured	63
No Lengths for	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	22	0	N/A	0	N/A
	Snapping 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.

Field Notes - General Field

Harris - Standard survey
updated waypoints

Maccaroni - nighttime spring electrofishing for LMB
water temp 5/26 : 72 F
few days of very hot weather preceeded a cold snap. Been chilly today .. not too many bass!

Approval Dates And Notices

Date Approved By Metro West Area Fisheries Supervisor: _____

Date Approved By Central Region Fisheries Manager: _____

This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 09/15/2021), 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.

Lake Survey Report revision: 20210824-RJE. Data Date: 09/15/2021 at 7:34 am .

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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: Lotus

Survey Type: Standard Survey

DOW Number: 10-0006-00

Survey ID Date: 05/26/2021

Survey Status: Proposed

The following 23 (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. 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 09/15/2021 may not be reflected in the Distribution tables until after 12:30 pm on 09/15/2021.

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