

Lake Name: West Battle
DOW Number: 56-0239-00

Survey Type: Standard Survey
Survey ID Date: 07/08/2024

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 27

DNR Sounding Map Number: B0218
Alternate Lake Class ID: 22

Lake Location

Primary County: Otter Tail

Nearest Town: Battle Lake

Legal Descriptions

Lake Center: Township - 133N Range - 40W Section - 35
PLS Section Lake Center: 13304035

All Legal Descriptions:

Otter Tail County: Township - 132N Range - 40W Sections - 1, 2, 3
Township - 133N Range - 39W (Eleven various sections)
Township - 133N Range - 40W Sections - 25, 26, 27, 34, 35, 36

Area Office

Area Name: Fergus Falls
Region Name: Northwest

ORG Code: F115
Region Number: 1

Lake Access

Station ID	Ownership	Public Use	Type	Location / Comments
------------	-----------	------------	------	---------------------

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

Lake Characteristics

Lake Area (planimetered acres): 5,624.00	GIS Shoreline Length (miles): 18.88
GIS Lake Area (acres): 5,614.98	Maximum Fetch (miles): 5.70
DOW Lake Area (acres): 5,672.00	Fetch Orientation (degrees): 90
Littoral Area (acres): 2,496.00	USGS Quad Map Number: M07c
Area in MN (acres): 5,614.98	USGS Quad 24K GIS Index: 2513
Maximum Depth (feet): 108.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Otter Tail River
Watershed Number: 56
Watershed size (acres): 1,222,024

Minor Watershed

Name: W Battle L
Watershed Number: 54
Watershed size (acres): 10,123

Surveys and Investigations

Initial Survey: 08/22/1955.
Re-Survey: 07/10/1995, 07/18/1983, 07/19/1976.
Population Assessment: 07/12/2010, 07/09/2007, 07/12/2004, 07/09/2001, 07/13/1998, 07/13/1992, 07/11/1987, 07/14/1986.
Special Assessment: 07/08/2013, 04/28/2003, 04/25/2000, 09/04/1997, 09/09/1996, 09/14/1994, 08/30/1993, 10/13/1993, 09/30/1993, 07/21/1987, 09/09/1986, 08/20/1986, 09/11/1985, 08/20/1984, 07/23/1984.
Creel Survey: 05/13/2000, 12/21/1999, 05/14/1983.
External Management Survey: 06/27/2007.
Standard Survey: 07/08/2024, 07/12/2016.
Targeted Survey: 07/13/2020, 05/04/2017.

Current Water Level

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	07/08/2024	Normal	-7.25	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

<u>Station ID</u>	<u>Location Description</u>
BM - 1	Bottom north corner of projecting sidewalk along concrete wall on southwest side of lake.

Water Level History - Readings

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	07/08/2024	Normal	-7.25	Above or below Benchmark
	07/13/2020	Normal	-8.10	Above or below Benchmark
	07/12/2016	Low	-8.10	Above or below Benchmark
	07/08/2013	Normal	-6.90	Above or below Benchmark
	07/09/2007	Normal	-7.50	Above or below Benchmark

Water Level History - Station Summary

<u>Station ID</u>	<u>Minimum Level</u>		<u>Maximum Level</u>		<u>Range (feet)</u>	<u>Average Level (feet)</u>	<u>Reading Type (and number of readings)</u>
	<u>Feet</u>	<u>Date</u>	<u>Feet</u>	<u>Date</u>			
BM - 1	-8.10	07/12/2016	-6.90	07/08/2013	1.20	-7.57	Above or below Benchmark (5)

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	07/08/2024	62.0	Surface	71.2	8.1
			3.0	70.9	7.7
			6.0	70.7	8.0
			9.0	70.7	8.0
			12.0	70.5	8.0
			15.0	70.5	8.1
			18.0	69.8	8.3
			21.0	69.3	8.2
			24.0	68.9	8.0
			27.0	68.7	8.0
			30.0	68.2	7.4
33.0	68.0	7.1			

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	07/08/2024	Surface	23.5	N/A	N/A	Clear	Low fertility

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 15
First Set Date: 07/08/2024
Last Lift Date: 07/12/2024
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 27 ¹		
				25%	50%	75%
BLC	Black Crappie	8	0.53	0.39	1.00	2.69
BLG	Bluegill	58	3.87	N/A	N/A	N/A
CAP	Common Carp	1	0.07	0.17	0.35	1.00
GSF	Green Sunfish	1	0.07	0.15	0.18	0.42
HSF	Hybrid Sunfish	125	8.33	N/A	N/A	N/A
LMB	Largemouth Bass	8	0.53	0.25	0.67	1.40
NOP	Northern Pike	84	5.60	2.76	5.06	9.00
PMK	Pumpkinseed	41	2.73	N/A	N/A	N/A
RKB	Rock Bass	110	7.33	0.60	1.33	3.86
WAE	Walleye	25	1.67	3.25	5.50	8.81
WTS	White Sucker	2	0.13	0.88	2.00	4.00
YEB	Yellow Bullhead	8	0.53	1.17	3.49	10.92
YEP	Yellow Perch	154	10.27	7.00	18.17	46.33
Total Fish/Set:			41.67	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 27 ¹		
					25%	50%	75%
BLC	Black Crappie	4.83	0.32	0.60	0.25	0.38	0.60
BLG	Bluegill	5.02	0.33	0.09	N/A	N/A	N/A
CAP	Common Carp	0.91	0.06	0.91	2.35	4.91	8.20
GSF	Green Sunfish	0.06	0.00	0.06	N/A	N/A	N/A
HSF	Hybrid Sunfish	21.97	1.46	0.18	N/A	N/A	N/A
LMB	Largemouth Bass	8.52	0.57	1.07	0.52	0.77	1.17
NOP	Northern Pike	172.91	11.53	2.06	1.57	2.04	2.75
PMK	Pumpkinseed	7.49	0.50	0.18	N/A	N/A	N/A
RKB	Rock Bass	41.07	2.74	0.37	0.30	0.40	0.51
WAE	Walleye	56.33	3.76	2.20	1.16	1.56	2.05
WTS	White Sucker	5.18	0.35	2.59	1.60	2.05	2.39
YEB	Yellow Bullhead	6.87	0.46	0.86	0.60	0.72	0.88
YEP	Yellow Perch	19.88	1.33	0.13	0.11	0.14	0.20
Total Pounds Fish/Set:			23.40	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: 15
First Set Date: 07/08/2024
Last Lift Date: 07/11/2024
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 27 ¹		
				25%	50%	75%
BLC	Black Crappie	9	0.60	0.36	0.90	2.32
BLG	Bluegill	664	44.27	4.39	16.21	48.97
BOF	Bowfin (Dogfish)	1	0.07	0.28	0.64	1.07
BRB	Brown Bullhead	2	0.13	0.25	0.75	1.57
GSF	Green Sunfish	4	0.27	0.17	0.41	0.98
HSF	Hybrid Sunfish	409	27.27	N/A	N/A	N/A
LMB	Largemouth Bass	40	2.67	0.33	0.67	1.25
NOP	Northern Pike	6	0.40	N/A	N/A	N/A
PMK	Pumpkinseed	73	4.87	1.76	3.67	7.78
RKB	Rock Bass	33	2.20	0.55	1.08	2.50
WAE	Walleye	7	0.47	0.20	0.43	0.75
YEB	Yellow Bullhead	6	0.40	1.17	2.40	5.18
Total Fish/Set:			83.60	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 27 ¹		
					25%	50%	75%
BLC	Black Crappie	4.17	0.28	0.46	0.29	0.44	0.63
BLG	Bluegill	123.78	8.25	0.18	0.11	0.16	0.25
BOF	Bowfin (Dogfish)	4.59	0.31	4.59	3.70	4.36	5.09
BRB	Brown Bullhead	1.04	0.07	0.52	0.68	0.91	1.11
GSF	Green Sunfish	0.64	0.04	0.16	0.08	0.10	0.20
HSF	Hybrid Sunfish	48.90	3.26	0.13	N/A	N/A	N/A
LMB	Largemouth Bass	25.89	1.73	0.65	0.21	0.40	0.76
NOP	Northern Pike	18.39	1.23	3.06	N/A	N/A	N/A
PMK	Pumpkinseed	20.08	1.34	0.28	0.13	0.18	0.26
RKB	Rock Bass	10.02	0.67	0.30	0.26	0.36	0.53
WAE	Walleye	25.88	1.73	3.70	0.95	1.58	2.73
YEB	Yellow Bullhead	5.03	0.34	0.84	0.62	0.78	0.94
Total Pounds Fish/Set:			19.23	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 07/08/2024 and 07/12/2024)

	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>GSF</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>RKB</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	12	-	-	20	-	-	7	4	-	-	-	-
4.00 - 4.49	1	25	-	1	14	-	-	3	17	-	-	-	-
4.50 - 4.99	2	4	-	-	26	-	-	2	12	-	-	-	-
5.00 - 5.49	-	2	-	-	9	-	-	-	7	-	-	-	1
5.50 - 5.99	-	7	-	-	11	-	-	7	4	-	-	-	26
6.00 - 6.49	-	3	-	-	7	-	-	5	3	-	-	-	67
6.50 - 6.99	-	3	-	-	12	-	-	14	8	-	-	-	38
7.00 - 7.49	-	1	-	-	8	1	-	3	5	1	-	-	9
7.50 - 7.99	-	-	-	-	11	-	-	-	10	-	-	-	7
8.00 - 8.49	-	1	-	-	6	-	-	-	4	-	-	-	1
8.50 - 8.99	-	-	-	-	1	-	-	-	7	1	-	1	2
9.00 - 9.49	-	-	-	-	-	-	-	-	5	-	-	-	2
9.50 - 9.99	-	-	-	-	-	-	-	-	6	-	-	-	-
10.00 - 10.49	-	-	-	-	-	-	-	-	7	2	-	-	1
10.50 - 10.99	-	-	-	-	-	1	-	-	5	-	-	1	-
11.00 - 11.49	-	-	-	-	-	-	-	-	5	1	-	3	-
11.50 - 11.99	4	-	-	-	-	-	-	-	1	1	-	-	-
12.00 - 12.99	1	-	1	-	-	2	-	-	-	-	-	2	-
13.00 - 13.99	-	-	-	-	-	2	1	-	-	-	-	1	-
14.00 - 14.99	-	-	-	-	-	2	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-	1	-	-	2	-	-	-
16.00 - 16.99	-	-	-	-	-	-	2	-	-	2	-	-	-
17.00 - 17.99	-	-	-	-	-	-	4	-	-	2	-	-	-
18.00 - 18.99	-	-	-	-	-	-	8	-	-	2	2	-	-
19.00 - 19.99	-	-	-	-	-	-	15	-	-	2	-	-	-
20.00 - 20.99	-	-	-	-	-	-	16	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	8	-	-	3	-	-	-
22.00 - 22.99	-	-	-	-	-	-	5	-	-	2	-	-	-
23.00 - 23.99	-	-	-	-	-	-	5	-	-	2	-	-	-
24.00 - 24.99	-	-	-	-	-	-	10	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	4	-	-	1	-	-	-
26.00 - 26.99	-	-	-	-	-	-	3	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	2	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>GSF</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>RKB</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	8	58	1	1	125	8	84	41	110	24	2	8	154
Min. Length	4.25	3.70	12.28	4.25	3.50	7.44	13.46	3.78	3.70	7.17	18.03	8.58	5.35
Max. Length	12.28	8.15	12.28	4.25	8.58	14.96	31.93	7.32	11.69	25.91	18.62	13.19	10.08
Mean Length	9.14	4.74	12.28	4.25	5.56	12.44	21.28	5.76	7.12	17.38	18.33	11.46	6.53
# Measured	8	58	1	1	125	8	84	41	110	24	2	8	154
No Lengths for	0	0	0	0	0	0	0	0	0	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.

LAKE SURVEY REPORT
STANDARD SURVEY DATED 07/08/2024 FOR DOW NUMBER 56-0239-00

DRAFT

Length Frequency Distribution for TN

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

(Field work conducted between 07/08/2024 and 07/11/2024)

	<u>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>BRB</u>	<u>GSF</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>RKB</u>	<u>WAE</u>	<u>YEB</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	22	-	-	1	14	-	-	-	1	-	-
3.50 - 3.99	-	42	-	-	-	144	-	-	-	1	-	-
4.00 - 4.49	1	50	-	-	-	71	-	-	-	1	-	-
4.50 - 4.99	-	23	-	-	1	20	-	-	2	2	-	-
5.00 - 5.49	-	52	-	-	-	23	-	-	1	6	-	-
5.50 - 5.99	-	97	-	-	-	35	-	-	3	2	-	-
6.00 - 6.49	-	116	-	-	-	28	-	-	10	3	-	-
6.50 - 6.99	-	96	-	-	-	34	1	-	34	4	-	-
7.00 - 7.49	-	99	-	-	2	28	3	-	16	4	-	-
7.50 - 7.99	-	39	-	-	-	8	3	-	5	3	-	-
8.00 - 8.49	-	22	-	1	-	5	4	-	2	2	-	-
8.50 - 8.99	-	6	-	-	-	-	4	-	-	-	-	-
9.00 - 9.49	2	2	-	-	-	-	1	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	6	-	-	1	-	-
10.00 - 10.49	1	-	-	-	-	-	2	-	-	-	1	1
10.50 - 10.99	-	-	-	-	-	-	2	-	-	2	1	2
11.00 - 11.49	1	-	-	1	-	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	2	-	-	-	-	1
12.00 - 12.99	-	-	-	-	-	-	8	-	-	1	-	2
13.00 - 13.99	-	-	-	-	-	-	3	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	1	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	1	-	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-	-	1	-	-
21.00 - 21.99	-	-	-	-	-	-	-	1	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	1	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-	-	-	-	3	-
25.00 - 25.99	-	-	-	-	-	-	-	2	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	2	-	-	-	-
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>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>BRB</u>	<u>GSF</u>	<u>HSF</u>	<u>LMB</u>	<u>NOP</u>	<u>PMK</u>	<u>RKB</u>	<u>WAE</u>	<u>YEB</u>
Total	5	666	1	2	4	410	40	6	73	33	7	6
Min. Length	4.13	3.19	23.82	8.27	3.43	3.19	6.50	18.27	4.84	3.27	10.24	10.39
Max. Length	11.14	9.02	23.82	11.26	7.09	8.31	16.89	26.77	8.19	12.40	27.13	12.80
Mean Length	8.83	5.90	23.82	9.76	5.56	5.03	10.23	24.04	6.75	6.72	20.19	11.46
# Measured	5	379	1	2	4	272	40	6	73	33	7	6
No Lengths for	4	285	0	0	0	137	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.

Approval Dates And Notices

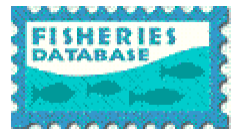
Date Approved By Fergus Falls Area Fisheries Supervisor: _____

Date Approved By Northwest Region Fisheries Manager: _____

This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 11/25/2024), 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: 20230207-RJE. Data Date: 11/25/2024 at 12:49 pm .

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: West Battle
DOW Number: 56-0239-00

Survey Type: Standard Survey
Survey ID Date: 07/08/2024

Survey Status: Field Work Complete

The following 22 (of 34) 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. Water Quality (Winter Observations) (added to revision 01/21/2010)
14. Laboratory Analysis Of Water Chemistry
15. Zooplankton Sampling (added to revision 20221130)
16. Catch Summary (Pre-1993 Format) (added to revision 20201001)
17. Length At Capture With Last Incremental Length*
18. Back-Calculated Lengths
19. Age Class Frequency Distributions
20. Other Species (added to revision 03/24/2009)
21. Status Of Fishery And Field Notes
22. 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 11/25/2024 may not be reflected in the Distribution tables until 11/26/2024.

FOR OFFICE USE ONLY: As of revision 20150622, this page is automatically suppressed on signed versions of this report (area supervisor, region manager, research biologist, research supervisor, program staff, or program manager signed).