

Lake Name: Benton

Survey Type: Standard Survey

DOW Number: 41-0043-00

Survey ID Date: 07/24/2023

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 41

DNR Sounding Map Number: C0436
Alternate Lake Class ID: N/A

Lake Location

Primary County: Lincoln

Nearest Town: Lake Benton

Legal Descriptions

Lake Center: Township - 110N Range - 45W Section - 25
PLS Section Lake Center: 11004525

All Legal Descriptions:

Lincoln County: Township - 109N Range - 45W Sections - 3, 4, 5, 8, 9, 10
Township - 110N Range - 44W Sections - 30, 31
Township - 110N Range - 45W Sections - 25, 26, 27, 28, 33, 34, 35, 36

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Special Assessment dated 10/26/1995)

<u>Station ID</u>	<u>Ownership</u>	<u>Public Use</u>	<u>Type</u>	<u>Location / Comments</u>
AC - 3	DNR	Open to Public use	Concrete	DNR OWNED ACCESS ON SOUTHWEST SHORE. LAKE BENTON CITY LIMITS.

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

Lake Characteristics

Lake Area (planimetered acres): 2,857.00	GIS Shoreline Length (miles): 18.01
GIS Lake Area (acres): 2,699.48	Maximum Fetch (miles): 5.60
DOW Lake Area (acres): 2,875.00	Fetch Orientation (degrees): 45
Littoral Area (acres): 2,699.47	USGS Quad Map Number: U04d
Area in MN (acres): 2,699.48	USGS Quad 24K GIS Index: 4108
Maximum Depth (feet): 9.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Redwood River
Watershed Number: 27
Watershed size (acres): 447,531

Minor Watershed

Name: L Benton
Watershed Number: 6
Watershed size (acres): 13,209

Surveys and Investigations

Re-Survey: 07/25/2000, 08/03/1992, 07/06/1983.
Population Assessment: 07/29/2013, 08/01/2011, 08/02/2010, 07/30/2009, 07/30/2007, 07/17/2006, 07/18/2007/21/2003, 07/29/1996, 08/01/1988.
Special Assessment: 09/23/1999, 10/26/1995, 07/02/1956.
Creel Survey: 04/25/1996.
Dissolved Oxygen Check: 02/17/2016, 02/19/2015, 01/02/2014, 02/06/2013, 01/03/2013, 01/10/2012, 12/29/2010/05/2010.
External Management Survey: 08/13/2012, 06/12/2012.
Standard Survey: 07/24/2023, 08/02/2021, 07/29/2019, 07/31/2017, 07/27/2015.
Targeted Survey: 09/21/2021, 10/13/2020, 01/08/2020, 10/23/2018, 01/19/2018, 10/12/2017, 07/31/2017

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/26/2023	Low	-4.00	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	X on west wing of dam.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/26/2023	Low	-4.00	Above or below Benchmark
	08/03/2021	Low	-4.60	Above or below Benchmark
	08/01/2019	Normal	-2.90	Above or below Benchmark
	08/02/2017	Normal	-3.00	Above or below Benchmark
	07/30/2015	Normal	-3.50	Above or below Benchmark
	07/31/2013	Normal	-3.60	Above or below Benchmark
	08/04/2010	High	-2.80	Above or below Benchmark
	08/01/2009	Low	N/A	Above or below Benchmark
	08/01/2007	Low	-3.90	Above or below Benchmark
GA - 1	08/04/2010	High	4.86	Direct Gauge Reading
	07/29/2009	N/A	4.20	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	-4.60	08/03/2021	-2.80	08/04/2010	1.80	-3.54	Above or below Benchmark (8)
GA - 1	4.20	07/29/2009	4.86	08/04/2010	0.66	4.53	Direct Gauge Reading (2)

Field Measurements of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
WQ - 2	07/19/2023	Surface	1.2	8.79	260	Brown Grn	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 5
 First Set Date: 07/24/2023
 Last Lift Date: 07/27/2023
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BLB	Black Bullhead	74	14.80	4.56	23.42	83.00
BLC	Black Crappie	26	5.20	0.83	2.63	11.10
CAP	Common Carp	23	4.60	0.52	1.80	9.13
NOP	Northern Pike	6	1.20	1.20	3.50	7.79
WAE	Walleye	124	24.80	3.22	7.67	15.33
WTS	White Sucker	52	10.40	0.75	2.00	5.88
YEP	Yellow Perch	142	28.40	3.00	8.94	22.50
Total Fish/Set:			89.40	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 41 ¹		
					25%	50%	75%
BLB	Black Bullhead	61.71	12.34	0.83	0.21	0.38	0.60
BLC	Black Crappie	17.29	3.46	0.68	0.17	0.25	0.37
CAP	Common Carp	90.85	18.17	3.80	1.00	2.39	4.88
NOP	Northern Pike	22.23	4.45	3.71	1.53	2.12	2.95
WAE	Walleye	216.86	43.37	1.75	0.88	1.37	1.90
WTS	White Sucker	112.29	22.46	2.16	1.44	1.87	2.20
YEP	Yellow Perch	43.43	8.69	0.31	0.14	0.24	0.36
Total Pounds Fish/Set:			112.93	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: 07/24/2023
 Last Lift Date: 07/27/2023
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41 ¹		
				25%	50%	75%
BLB	Black Bullhead	277	18.47	1.33	14.73	78.13
BLC	Black Crappie	105	7.00	0.98	2.96	12.33
BLG	Bluegill	30	2.00	1.05	3.00	14.93
CAP	Common Carp	39	2.60	0.70	1.80	5.11
NOP	Northern Pike	15	1.00	N/A	N/A	N/A
OSS	Orangespotted Sunfish	3	0.20	N/A	N/A	N/A
WAE	Walleye	47	3.13	0.31	0.73	1.69
WTS	White Sucker	1	0.07	0.25	0.50	1.29
YEP	Yellow Perch	26	1.73	0.25	0.81	2.62
Total Fish/Set:			36.20	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 41 ¹		
					25%	50%	75%
BLB	Black Bullhead	253.53	16.90	0.90	0.21	0.36	0.59
BLC	Black Crappie	80.89	5.39	0.77	0.23	0.34	0.49
BLG	Bluegill	6.11	0.41	0.24	0.16	0.25	0.38
CAP	Common Carp	227.15	15.14	5.82	2.33	4.10	5.64
NOP	Northern Pike	32.67	2.18	2.18	N/A	N/A	N/A
OSS	Orangespotted Sunfish	0.12	0.01	0.04	N/A	N/A	N/A
WAE	Walleye	16.65	1.11	0.36	0.85	1.63	2.41
WTS	White Sucker	2.63	0.18	2.63	1.35	1.97	2.62
YEP	Yellow Perch	4.21	0.28	0.16	0.13	0.20	0.31
Total Pounds Fish/Set:			41.60	¹ Quartiles for Mean Weight			

² Mean Weights are based on measured fish counts only.

Length Frequency Distribution for GN (for fish < 36.00 inches)

Standard gill net sets

(Field work conducted between 07/24/2023 and 07/27/2023)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	1	-	-
4.50 - 4.99	2	-	2	-	-	-	-
5.00 - 5.49	1	-	-	-	-	-	-
5.50 - 5.99	1	-	-	-	-	-	1
6.00 - 6.49	3	3	-	-	-	-	7
6.50 - 6.99	2	7	-	-	-	1	49
7.00 - 7.49	-	1	-	-	-	-	13
7.50 - 7.99	1	-	-	-	-	-	-
8.00 - 8.49	-	-	-	-	1	-	4
8.50 - 8.99	-	-	-	-	11	-	16
9.00 - 9.49	3	-	-	-	24	1	30
9.50 - 9.99	4	-	-	-	5	-	12
10.00 - 10.49	8	-	-	-	5	-	5
10.50 - 10.99	10	2	-	-	1	-	2
11.00 - 11.49	6	-	-	-	4	-	2
11.50 - 11.99	17	8	-	-	8	-	-
12.00 - 12.99	15	4	-	-	14	-	-
13.00 - 13.99	-	-	1	-	1	-	-
14.00 - 14.99	1	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	2	2	-
16.00 - 16.99	-	-	-	-	1	14	-
17.00 - 17.99	-	-	-	-	-	27	-
18.00 - 18.99	-	-	-	-	6	7	-
19.00 - 19.99	-	-	1	-	2	-	-
20.00 - 20.99	-	-	5	1	3	-	-
21.00 - 21.99	-	-	11	1	5	-	-
22.00 - 22.99	-	-	3	1	8	-	-
23.00 - 23.99	-	-	2	2	8	-	-
24.00 - 24.99	-	-	-	-	7	-	-
25.00 - 25.99	-	-	-	-	4	-	-
26.00 - 26.99	-	-	-	-	2	-	-
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	-	-	-	1	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	74	25	25	6	123	52	141
Min. Length	4.84	6.30	4.57	20.94	4.45	6.54	5.98
Max. Length	14.80	12.83	23.07	36.65	26.97	18.90	11.42
Mean Length	10.68	9.57	19.07	24.81	14.85	16.92	8.08
# Measured	74	25	19	6	123	52	141
No Lengths for	0	1	4	0	1	0	1

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 GN (for fish \geq 36.00 inches)

Standard gill net sets

(Field work conducted between 07/24/2023 and 07/27/2023)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
< 36.00	74	26	23	5	124	52	142
36.00 - 36.99	-	-	-	1	-	-	-
37.00 - 37.99	-	-	-	-	-	-	-
38.00 - 38.99	-	-	-	-	-	-	-
39.00 - 39.99	-	-	-	-	-	-	-
40.00 - 40.99	-	-	-	-	-	-	-
41.00 - 41.99	-	-	-	-	-	-	-
42.00 - 42.99	-	-	-	-	-	-	-
43.00 - 43.99	-	-	-	-	-	-	-
44.00 - 44.99	-	-	-	-	-	-	-
45.00 - 45.99	-	-	-	-	-	-	-
46.00 - 46.99	-	-	-	-	-	-	-
47.00 - 47.99	-	-	-	-	-	-	-
48.00 - 48.99	-	-	-	-	-	-	-
49.00 - 49.99	-	-	-	-	-	-	-
50.00 - 50.99	-	-	-	-	-	-	-
51.00 - 51.99	-	-	-	-	-	-	-
52.00 - 52.99	-	-	-	-	-	-	-
53.00 - 53.99	-	-	-	-	-	-	-
54.00 - 54.99	-	-	-	-	-	-	-
55.00 - 55.99	-	-	-	-	-	-	-
56.00 - 56.99	-	-	-	-	-	-	-
57.00 - 57.99	-	-	-	-	-	-	-
58.00 - 58.99	-	-	-	-	-	-	-
59.00 - 59.99	-	-	-	-	-	-	-
60.00 - 60.99	-	-	-	-	-	-	-
61.00 - 61.99	-	-	-	-	-	-	-
62.00 - 62.99	-	-	-	-	-	-	-
63.00 - 63.99	-	-	-	-	-	-	-
64.00 - 64.99	-	-	-	-	-	-	-
65.00 - 65.99	-	-	-	-	-	-	-
66.00 - 66.99	-	-	-	-	-	-	-
67.00 - 67.99	-	-	-	-	-	-	-
68.00 - 68.99	-	-	-	-	-	-	-
69.00 - 69.99	-	-	-	-	-	-	-
70.00 - 70.99	-	-	-	-	-	-	-
71.00 - 71.99	-	-	-	-	-	-	-
72.00 - 72.99	-	-	-	-	-	-	-
73.00 - 73.99	-	-	-	-	-	-	-
74.00 - 74.99	-	-	-	-	-	-	-
75.00 - 75.99	-	-	-	-	-	-	-
76.00 - 76.99	-	-	-	-	-	-	-
77.00 - 77.99	-	-	-	-	-	-	-
= > 78.00	-	-	-	-	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	74	26	23	6	124	52	142
Min. Length	4.84	6.30	4.57	20.94	4.45	6.54	5.98
Max. Length	14.80	12.83	23.07	36.65	26.97	18.90	11.42
Mean Length	10.68	9.57	19.07	24.81	14.85	16.92	8.08
# Measured	74	25	19	6	123	52	141
No Lengths for	0	1	4	0	1	0	1

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 07/24/2023 and 07/27/2023)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>NOP</u>	<u>OSS</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	1	-	-	-	-	-	-
3.50 - 3.99	-	-	4	-	-	3	-	-	-
4.00 - 4.49	2	-	7	-	-	-	-	-	-
4.50 - 4.99	5	-	6	-	-	-	-	-	-
5.00 - 5.49	1	-	-	-	-	-	-	-	-
5.50 - 5.99	-	3	2	-	-	-	-	-	-
6.00 - 6.49	1	7	1	-	-	-	-	-	9
6.50 - 6.99	1	11	4	-	-	-	-	-	10
7.00 - 7.49	-	3	2	-	-	-	1	-	5
7.50 - 7.99	-	-	1	-	-	-	-	-	-
8.00 - 8.49	-	-	-	-	-	-	4	-	-
8.50 - 8.99	1	-	2	-	-	-	13	-	1
9.00 - 9.49	-	-	-	-	-	-	16	-	-
9.50 - 9.99	3	-	1	-	-	-	5	-	-
10.00 - 10.49	9	4	-	-	-	-	-	-	-
10.50 - 10.99	28	9	-	-	-	-	1	-	-
11.00 - 11.49	48	21	-	-	-	-	2	-	-
11.50 - 11.99	79	21	-	-	-	-	-	-	-
12.00 - 12.99	77	23	-	-	-	-	1	-	-
13.00 - 13.99	18	2	-	-	-	-	-	-	-
14.00 - 14.99	2	-	-	-	-	-	-	-	-
15.00 - 15.99	1	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	1	-	-	-	1	-
19.00 - 19.99	-	-	-	1	2	-	-	-	-
20.00 - 20.99	-	-	-	8	1	-	-	-	-
21.00 - 21.99	-	-	-	1	4	-	-	-	-
22.00 - 22.99	-	-	-	9	4	-	-	-	-
23.00 - 23.99	-	-	-	11	1	-	1	-	-
24.00 - 24.99	-	-	-	1	2	-	-	-	-
25.00 - 25.99	-	-	-	1	1	-	-	-	-
26.00 - 26.99	-	-	-	2	-	-	-	-	-
27.00 - 27.99	-	-	-	1	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	2	-	-	-	-	-
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>NOP</u>	<u>OSS</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	276	104	31	38	15	3	44	1	25
Min. Length	4.25	5.59	3.39	18.82	19.06	3.58	7.48	18.43	6.02
Max. Length	15.31	13.43	9.76	29.88	25.67	3.86	23.27	18.43	8.78
Mean Length	11.47	10.47	5.86	23.03	22.22	3.69	9.55	18.43	6.74
# Measured	214	104	23	38	15	3	42	1	25
No Lengths for	63	1	7	0	0	0	5	0	1

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	Northern Crayfish	51	0	N/A	0	N/A
	Painted Turtle	10	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.

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 07/28/2023), 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

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

Lake Name: Benton
DOW Number: 41-0043-00

Survey Type: Standard Survey
Survey ID Date: 07/24/2023

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. Dissolved Oxygen And Temperature Profile Of Lake Water
14. Water Quality (Winter Observations) (added to revision 01/21/2010)
15. Laboratory Analysis Of Water Chemistry
16. Zooplankton Sampling (added to revision 20221130)
17. Catch Summary (Pre-1993 Format) (added to revision 20201001)
18. Length At Capture With Last Incremental Length*
19. Back-Calculated Lengths
20. Age Class Frequency Distributions
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 before noon on 07/28/2023 may not be reflected in the Distribution tables until after 12:30 pm on 07/28/2023.

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