

# LAKE SURVEY REPORT

#### **DRAFT VERSION**

PRELIMINARY DATA (AS OF 06/14/2024)

Lake Name: Big Twin

DOW Number: 46-0133-00

Survey Type: Standard Survey

Survey ID Date: 06/10/2024

Lake Identification

Alternate Lake Name: N/A DNR Sounding Map Number: C2885 Primary Lake Class ID: 43 Alternate Lake Class ID: N/A

**Lake Location** 

Primary County: Martin Nearest Town: Trimont

**Legal Descriptions** 

Lake Center: Township - 103N Range - 33W Section - 13

PLS Section Lake Center: 10303313

All Legal Descriptions:

Martin County: Township - 103N Range - 33W Sections - 11, 12, 13, 14

**Area Office** 

Area Name: Windom ORG Code: F418
Region Name: Southern Region Number: 4

**Lake Access** 

(Information based on Special Assessment dated 11/08/1994)

Station ID	Ownership	Public Use	Туре	Location / Comments		
AC - 1	DNR	Open to Public use	Concrete	STATE OWNED ACCESS ON EAST SIDE.		

USGS Quad 24K GIS Index: 4621

**Lake Characteristics** 

Lake Area (planimetered acres): 457.00 GIS Shoreline Length (miles): 6.11
GIS Lake Area (acres): 460.75 Maximum Fetch (miles): 1.50
DOW Lake Area (acres): 457.00 Fetch Orientation (degrees): 360
Littoral Area (acres): 443.50 USGS Quad Map Number: X11b

Area in MN (acres): 460.75
Maximum Depth (feet): 18.0

Mean Depth (feet): 16.0 Mean Depth (feet): N/A

**Watershed Characteristics** 

Major Watershed Minor Watershed

Name: Blue Earth River Name: Elm Cr

Watershed Number: 30 Watershed Number: 76

Watershed size (acres): 777,240 Watershed size (acres): 30,240



#### **Surveys and Investigations**

Initial Survey: 06/13/1983.

**Re-Survey:** 06/26/2000, 06/23/1992.

**Population Assessment:** 06/18/2012, 06/23/2008, 06/28/2004, 06/24/1996, 06/27/1988.

**Special Assessment:** 09/27/2000, 09/15/1999, 11/08/1994.

Dissolved Oxygen Check: 02/11/2016, 02/23/2015, 01/03/2014, 01/08/2013, 12/28/2012, 01/11/2012, 12/29/201

01/12/2010.

Standard Survey: 06/10/2024, 06/29/2020, 06/27/2016.

Targeted Survey: 09/21/2023, 10/05/2022, 10/05/2020, 02/03/2020, 02/19/2019, 01/18/2018, 07/05/201

07/01/2016.

#### Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/30/2020	Normal	-6.90	Above or below Benchmark
	06/27/2016	High	-6.60	Above or below Benchmark
	06/18/2012	Normal	-4.20	Above or below Benchmark
	06/24/2008	Normal	-7.30	Above or below Benchmark

#### Water Level History - Station Summary

	Minimum Level		Maximum Level		Range	Average	Reading Type	
Station ID	Feet	Date	Feet	Date	(feet)	Level (feet)	(and number of readings)	
BM - 1	-7.30	06/24/2008	-4.20	06/18/2012	3.10	-6.25	Above or below Benchmark (4)	

#### Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water Temperature (°F)	Dissolved Oxygen (ppm)
WQ - 1	06/10/2024	10.6	0.1	69.1	6.5
			1.0	69.1	6.3
			2.0	68.9	6.2
			3.0	68.9	6.1
			4.0	68.9	6.2
			5.0	68.9	6.2
			6.0	68.9	6.3
			7.0	68.9	6.3
			8.0	68.9	6.3
			9.0	68.7	5.6
			10.0	68.7	5.6
			11.0	68.7	5.5

#### **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	06/10/2024	Surface	1.5	8.50	220	Brown Grn	N/A

### Net Catch Summary by Numbers for **GN**

#### Standard gill net sets

Number of Sets: 3

First Set Date: 06/10/2024 Last Lift Date: 06/13/2024 Target Species: N/A

				Quartiles for Lake Class 43 <sup>1</sup>		
Abbr	Species	Total Fish	Number Per Set	25%	50%	75%
CCF	Channel Catfish	36	12.00	N/A	N/A	N/A
CAP	Common Carp	9	3.00	1.00	3.33	13.75
FRD	Freshwater Drum	22	7.33	0.50	2.56	8.33
WAE	Walleye	76	25.33	2.28	6.83	18.06
YEP	Yellow Perch	5	1.67	2.65	8.00	25.00
		Total Fish/Set:	49.33	¹ Quartile	s for Number P	er Set

### Net Catch Summary by Weight for $\underline{\text{GN}}$

### Standard gill net sets

		Total Weight	Pounds	Mean	Quartiles	<b>Quartiles for Lake Class 4</b>	
Abbr	Species	(Pounds)	Per Set	Weight <sup>2</sup>	25%	50%	75%
CCF	Channel Catfish	126.88	42.29	3.52	N/A	N/A	N/A
CAP	Common Carp	42.70	14.23	4.74	0.81	1.98	3.70
FRD	Freshwater Drum	51.33	17.11	2.33	0.40	0.82	1.67
WAE	Walleye	87.02	29.01	1.19	1.01	1.53	2.30
YEP	Yellow Perch	2.73	0.91	0.68	0.13	0.21	0.31
	٦	Total Pounds Fish/Set:	103.55		¹ Quartil	es for Mean We	eight

<sup>&</sup>lt;sup>2</sup> 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: 06/10/2024 Last Lift Date: 06/13/2024 Target Species: N/A

				Quartiles for Lake Class 431		
Abbr	Species	Total Fish	Number Per Set	25%	50%	75%
BLB	Black Bullhead	2	0.22	11.50	42.00	132.61
BLC	Black Crappie	10	1.11	1.17	4.88	20.50
BLG	Bluegill	10	1.11	1.17	3.89	20.00
CCF	Channel Catfish	8	0.89	N/A	N/A	N/A
CAP	Common Carp	2	0.22	1.00	2.44	5.51
FRD	Freshwater Drum	1	0.11	0.23	0.92	3.25
LMB	Largemouth Bass	1	0.11	0.23	0.38	0.67
WAE	Walleye	26	2.89	0.50	1.33	2.95
		Total Fish/Set:	6.67	¹ Quartiles	s for Number P	er Set

### Net Catch Summary by Weight for TN

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

		<b>Total Weight</b>	Pounds	Mean	Quartiles for Lake Class 431		ss 43¹
Abbr	Species	(Pounds)	Per Set	Weight <sup>2</sup>	25%	50%	75%
BLB	Black Bullhead	3.58	0.40	1.79	0.18	0.28	0.40
BLC	Black Crappie	5.05	0.56	0.51	0.22	0.34	0.50
BLG	Bluegill	4.58	0.51	0.46	0.13	0.24	0.39
CCF	Channel Catfish	32.83	3.65	4.10	N/A	N/A	N/A
CAP	Common Carp	13.89	1.54	6.95	1.42	2.92	4.58
FRD	Freshwater Drum	2.47	0.27	2.47	0.28	0.60	0.95
LMB	Largemouth Bass	1.68	0.19	1.68	0.30	0.85	1.53
WAE	Walleye	65.94	7.33	2.54	0.82	1.44	2.28
Total Pounds Fish/Set: 14.45 1 Quartiles for Mean Weight						eight	

<sup>&</sup>lt;sup>2</sup> Mean Weights are based on measured fish counts only.

### Length Frequency Distribution for **GN**

#### Standard gill net sets

(Field work conducted between 06/10/2024 and 06/13/2024)

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	CAP	CCF	FRD	<b>WAE</b>	<u>YEP</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	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-
8.00 - 8.49	-	-	-	-	-
8.50 - 8.99	-	-	-	-	-
9.00 - 9.49	-	-	-	-	-
9.50 - 9.99	-	-	-	4	-
10.00 - 10.49	-	-	-	13	-
10.50 - 10.99	-	-	-	18	1
11.00 - 11.49	1	-	-	15	3
11.50 - 11.99	2	-	-	2	-
12.00 - 12.99	1	-	-	-	-
13.00 - 13.99	-	-	-	-	-
14.00 - 14.99	-	-	1	-	-
15.00 - 15.99	-	-	4	7	-
16.00 - 16.99	-	1	5	1	-
17.00 - 17.99	-	-	8	2	-
18.00 - 18.99	-	-	2	3	-
19.00 - 19.99	-	1	-	1	-
20.00 - 20.99	-	6	1	3	-
21.00 - 21.99	-	12	1	2	-
22.00 - 22.99	-	7	-	2	-
23.00 - 23.99	-	5	-	-	-
24.00 - 24.99	2	4	-	2	-
25.00 - 25.99	2	-	-	-	-
26.00 - 26.99	-	-	-	-	-
27.00 - 27.99	1	-	-	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		-		-	
	CAP	CCF	FRD	WAE	YEP

	<u>CAP</u>	CCF	<u>FRD</u>	<u>WAE</u>	<u>YEP</u>
Total	9	36	22	76	4
Min. Length	11.02	16.34	14.57	9.69	10.79
Max. Length	27.17	24.41	21.10	27.32	11.42
Mean Length	19.43	21.96	17.10	13.66	11.10
# Measured	9	36	22	68	3
No Lengths for	0	0	0	8	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.

### **Length Frequency Distribution for TN**

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

(Field work conducted between 06/10/2024 and 06/13/2024)

	<u>BLB</u>	BLC	<u>BLG</u>	CAP	CCF	FRD	<u>LMB</u>	WAE
< 3.00	-	-	-	-	-	_	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	1	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	_	-	-
5.00 - 5.49	-	_	-	-	_	_	-	-
5.50 - 5.99	-	-	3	-	-	-	-	-
6.00 - 6.49	-	-	3	-	-	-	-	-
6.50 - 6.99	-	-	-	-	-	-	-	-
7.00 - 7.49	-	-	-	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-	-	-	-
8.00 - 8.49	-	1	-	-	-	-	-	-
8.50 - 8.99	-	3	1	-	-	-	-	-
9.00 - 9.49	-	5	-	-	-	-	-	1
9.50 - 9.99	_	_	-	_	_	_	-	1
10.00 - 10.49	_	_	1	-	_	_	_	4
10.50 - 10.99	_	_	1	_	_	_	_	2
11.00 - 11.49	_	_	-	-	_	_	_	3
11.50 - 11.99	_	_	_	_	_	_	_	_
12.00 - 12.99	_	_	-	-	_	_	_	-
13.00 - 13.99	2	1	-	-	_	_	_	-
14.00 - 14.99	_	_	-	-	_	_	1	-
15.00 - 15.99	_	_	_	_	_	_	_	-
16.00 - 16.99	_	_	_	_	_	_	_	-
17.00 - 17.99	_	_	_	_	_	_	_	-
18.00 - 18.99	_	_	-	-	_	_	_	1
19.00 - 19.99	_	_	_	_	1	_	_	1
20.00 - 20.99	_	_	-	_	_	_	-	1
21.00 - 21.99	_	_	_	_	2	_	_	2
22.00 - 22.99	_	_	-	_	2	1	-	2
23.00 - 23.99	_	_	_	_	2	_	_	-
24.00 - 24.99	_	_	_	1	_	_	_	3
25.00 - 25.99	-	-	-	1	1	-	-	3
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	-	-	-	-	-	_	-	-
	DID	DI C	DI C	CAB	CCE	EDD	LMD	\A/A E
T-4 !	BLB	<u>BLC</u>	<u>BLG</u>	<u>CAP</u> 2	CCF	FRD	LMB	<u>WAE</u>
Total	12.06	10	10		8	1	14.40	26
Min. Length	13.86	8.27	3.62	24.80	19.29	22.28	14.49	9.29
Max. Length	13.98	13.39	10.75	25.71	25.98	22.28	14.49	26.30
Mean Length	13.92	9.39	6.93	25.26	22.51	22.28	14.49	17.77
# Measured	2	10	10	2	8	1	1	26
No Lengths for	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.

### **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	1	0.12	0	N/A
	Snapping Turtle	6	6	10.24 - 14.30 - 18.94	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 06/14/2024), 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.

#### REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Big Twin

DOW Number: 46-0133-00

Survey Type: Standard Survey

Survey ID Date: 06/10/2024

Survey Status: Field Work Complete

The following 23 (of 34) 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. Lake Inlets
- 5. Additional Inlet Information
- 6. Lake Outlets
- 7. Additional Outlet Information
- 8. Water Control Structure (Dam)
- 9. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations<sup>2</sup>
- 10. Resorts And Campgrounds
- 11. Fish Spawning Conditions
- 12. Erosion And Pollution
- 13. Fish Diseases And Parasites
- 14. Aquatic Vegetation And Shoalwater Substrates
- 15. Water Quality (Winter Observations) (added to revision 01/21/2010)
- 16. Laboratory Analysis Of Water Chemistry
- 17. Zooplankton Sampling (added to revision 20221130)
- 18. Catch Summary (Pre-1993 Format) (added to revision 20201001)
- 19. Length At Capture With Last Incremental Length\*
- 20. Back-Calculated Lengths
- 21. Age Class Frequency Distributions
- 22. Status Of Fishery And Field Notes
- 23. Survey Attachments (added to revision 20150622)
- <sup>1</sup> 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.
- <sup>2</sup> 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 06/14/2024 may not be reflected in the Distribution tables until after 12:30 pm on 06/14/2024.

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