



Minnesota Department of Natural Resources
Fisheries Management



LAKE SURVEY REPORT

DRAFT VERSION - PRELIMINARY DATA (AS OF 06/30/2016)

Lake Name: Big Twin

Survey Type: Standard Survey

DOW Number: 46-0133-00

Survey ID Date: 06/27/2016

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 43

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

Lake Location

Primary County: Martin

Nearest Town: Trimont

Legal Descriptions

Lake Center: Township - 103N Range - 33W Section - 12
PLS Section Lake Center: 10303312

All Legal Descriptions:

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

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

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

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

Lake Characteristics

Lake Area (planimetered acres):	457.00	GIS Shoreline Length (miles):	6.13
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):	444.51	USGS Quad 24K GIS Index:	4621
Maximum Depth (feet):	18.0		
Mean Depth (feet):	N/A		

Watershed Characteristics

Major Watershed

Name: Blue Earth River
Watershed Number: 30
Watershed size (acres): 777,240

Minor Watershed

Name: Elm Cr
Watershed Number: 76
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, 12/29/2010,
 01/12/2010.
 Standard Survey: 06/27/2016.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/27/2016	High	-6.60	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	spike on south side of tree trunk behind aeration sign 30 feet south of public access.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	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

Station ID	Minimum Level		Maximum Level		Range (feet)	Average Level (feet)	Reading Type (and number of readings)
	Feet	Date	Feet	Date			
BM - 1	-7.30	06/24/2008	-4.20	06/18/2012	3.10	-6.03	Above or below Benchmark (3)

Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water	Dissolved
				Temperature (°F)	Oxygen (ppm)
WQ - 2	06/27/2016	12.1	Surface	77.2	6.6
			1.0	77.2	6.6
			2.0	77.2	6.4
			3.0	77.2	6.3
			4.0	77.2	6.3
			5.0	77.2	6.3
			6.0	77.2	6.1
			7.0	77.2	6.2
			8.0	77.2	6.4
			9.0	77.2	6.4
			10.0	77.2	6.4
			11.0	77.2	6.3
12.0	77.2	6.3			

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 - 2	06/27/2016	Surface	1.0	8.63	240	Brown Grn	N/A

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 3
 First Set Date: 06/27/2016
 Last Lift Date: 06/30/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	1	0.33	30.34	75.58	150.62
BLC	Black Crappie	3	1.00	1.41	3.71	13.75
CCF	Channel Catfish	77	25.67	N/A	N/A	N/A
CAP	Common Carp	1	0.33	1.00	3.33	13.75
FRD	Freshwater Drum	6	2.00	0.50	2.56	8.33
WAE	Walleye	15	5.00	2.28	6.83	18.06
YEP	Yellow Perch	547	182.33	2.65	8.00	25.00
Total Fish/Set:			216.67	* 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 43*		
					25%	50%	75%
BLB	Black Bullhead	0.88	0.29	0.88	0.17	0.26	0.39
BLC	Black Crappie	2.63	0.88	0.88	0.16	0.25	0.35
CCF	Channel Catfish	175.56	58.52	2.28	N/A	N/A	N/A
CAP	Common Carp	3.64	1.21	3.64	0.81	1.98	3.70
FRD	Freshwater Drum	7.63	2.54	1.27	0.40	0.82	1.67
WAE	Walleye	25.51	8.50	1.70	1.01	1.53	2.30
YEP	Yellow Perch	134.34	44.78	0.25	0.13	0.21	0.31
Total Pounds Fish/Set:			116.73	* Quartiles for Mean Weight			

Net Catch Summary by Numbers for TN

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

Number of Sets: 9
 First Set Date: 06/27/2016
 Last Lift Date: 06/30/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	2	0.22	11.50	42.00	132.61
BLC	Black Crappie	860	95.56	1.17	4.88	20.50
BLG	Bluegill	4	0.44	1.17	3.89	20.00
CCF	Channel Catfish	45	5.00	N/A	N/A	N/A
CAP	Common Carp	7	0.78	1.00	2.44	5.51
FRD	Freshwater Drum	7	0.78	0.23	0.92	3.25
GOS	Golden Shiner	2	0.22	0.22	0.50	1.10
LMB	Largemouth Bass	2	0.22	0.23	0.38	0.67
WAE	Walleye	2	0.22	0.50	1.33	2.95
WHC	White Crappie	18	2.00	0.25	1.83	5.96
YEP	Yellow Perch	6	0.67	0.33	1.37	3.76
Total Fish/Set:			106.11	* 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	Quartiles for Lake Class 43*		
					25%	50%	75%
BLB	Black Bullhead	2.39	0.27	1.19	0.18	0.28	0.40
BLC	Black Crappie	391.47	43.50	0.46	0.22	0.34	0.50
BLG	Bluegill	2.67	0.30	0.67	0.13	0.24	0.39
CCF	Channel Catfish	126.20	14.02	2.80	N/A	N/A	N/A
CAP	Common Carp	44.32	4.92	6.33	1.42	2.92	4.58
FRD	Freshwater Drum	9.08	1.01	1.30	0.28	0.60	0.95
GOS	Golden Shiner	0.41	0.05	0.21	0.06	0.10	0.10
LMB	Largemouth Bass	5.84	0.65	2.92	0.30	0.85	1.53
WAE	Walleye	10.91	1.21	5.46	0.82	1.44	2.28
WHC	White Crappie	6.75	0.75	0.38	0.27	0.40	0.63
YEP	Yellow Perch	1.38	0.15	0.23	0.11	0.18	0.30
Total Pounds Fish/Set:			66.83	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 06/27/2016 and 06/30/2016)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>WAE</u>	<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	-	-	-	-	-	-	3
6.50 - 6.99	-	-	-	-	-	-	41
7.00 - 7.49	-	-	-	-	-	-	79
7.50 - 7.99	-	-	-	-	-	-	216
8.00 - 8.49	-	-	-	-	-	-	158
8.50 - 8.99	-	-	-	-	-	-	48
9.00 - 9.49	-	-	-	-	-	-	2
9.50 - 9.99	-	-	-	-	-	-	-
10.00 - 10.49	-	-	-	-	-	-	-
10.50 - 10.99	1	2	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	1	-
12.00 - 12.99	-	-	-	1	-	5	-
13.00 - 13.99	-	1	-	5	-	3	-
14.00 - 14.99	-	-	-	6	5	-	-
15.00 - 15.99	-	-	-	-	1	-	-
16.00 - 16.99	-	-	-	6	-	2	-
17.00 - 17.99	-	-	-	12	-	-	-
18.00 - 18.99	-	-	-	10	-	-	-
19.00 - 19.99	-	-	-	6	-	1	-
20.00 - 20.99	-	-	1	10	-	-	-
21.00 - 21.99	-	-	-	10	-	1	-
22.00 - 22.99	-	-	-	10	-	-	-
23.00 - 23.99	-	-	-	1	-	-	-
24.00 - 24.99	-	-	-	-	-	1	-
25.00 - 25.99	-	-	-	-	-	1	-
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>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>WAE</u>	<u>YEP</u>
Total	1	3	1	77	6	15	547
Min. Length	10.67	10.51	20.51	12.80	14.02	11.77	6.38
Max. Length	10.67	13.74	20.51	23.11	15.00	25.43	9.02
Mean Length	10.67	11.65	20.51	18.82	14.25	15.94	7.89
# Measured	1	3	1	77	6	15	151
No Lengths for	0	0	0	0	0	0	396

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 06/27/2016 and 06/30/2016)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>LMB</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	3	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	16	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	9	-	-	-	-	-	-	-	1	-
5.50 - 5.99	-	12	-	-	-	-	-	-	-	1	-
6.00 - 6.49	-	-	-	-	-	-	-	-	-	1	-
6.50 - 6.99	-	2	-	-	-	-	-	-	-	1	1
7.00 - 7.49	-	-	-	-	-	-	1	-	-	-	-
7.50 - 7.99	-	2	-	-	-	-	1	-	-	-	2
8.00 - 8.49	-	16	-	-	-	-	-	-	-	2	3
8.50 - 8.99	-	172	1	-	-	-	-	-	-	-	-
9.00 - 9.49	-	453	3	-	-	-	-	-	-	4	-
9.50 - 9.99	-	66	-	-	-	-	-	-	-	2	-
10.00 - 10.49	-	63	-	-	-	-	-	-	-	3	-
10.50 - 10.99	-	42	-	-	-	-	-	-	-	2	-
11.00 - 11.49	-	5	-	-	-	-	-	-	-	1	-
11.50 - 11.99	-	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	1	-	-	-	-	-	-	-	-	-	-
13.00 - 13.99	1	-	-	-	4	2	-	-	-	-	-
14.00 - 14.99	-	-	-	-	1	4	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	1	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	7	-	-	2	-	-	-
18.00 - 18.99	-	-	-	-	2	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	6	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	6	-	-	-	-	-	-
21.00 - 21.99	-	-	-	1	8	-	-	-	-	-	-
22.00 - 22.99	-	-	-	1	9	-	-	-	-	-	-
23.00 - 23.99	-	-	-	1	1	-	-	-	-	-	-
24.00 - 24.99	-	-	-	1	1	-	-	-	1	-	-
25.00 - 25.99	-	-	-	1	-	-	-	-	1	-	-
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	-	-	-	-	-	-	-	-	-	-	-
	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>LMB</u>	<u>WAE</u>	<u>WHC</u>	<u>YEP</u>
Total	2	861	4	7	45	7	2	2	2	18	6
Min. Length	12.83	4.33	8.50	21.69	13.03	13.43	7.48	17.09	24.57	5.24	6.65
Max. Length	13.23	11.30	9.29	26.06	24.17	15.04	7.87	17.44	25.63	11.30	8.31
Mean Length	13.03	8.98	9.02	24.18	19.76	14.34	7.68	17.26	25.10	8.98	7.87
# Measured	2	229	4	7	45	7	2	2	2	18	6
No Lengths for	0	631	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

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	4	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 06/30/2016), 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: Big Twin
DOW Number: 46-0133-00

Survey Type: Standard Survey
Survey ID Date: 06/27/2016

Survey Status: Field Work Complete

The following 19 (of 32) 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. Laboratory Analysis Of Water Chemistry
14. Length At Capture With Last Incremental Length*
15. Back-Calculated Lengths
16. Age Class Frequency Distributions
17. Status Of Fishery And Field Notes
18. Water Quality (Winter Observations) (added to revision 01/21/2010)
19. 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 06/30/2016 may not be reflected in the Distribution tables until 07/01/2016.

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