

Lake Name: Fox
DOW Number: 46-0109-00

Survey Type: Standard Survey
Survey ID Date: 09/05/2023

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 24

DNR Sounding Map Number: D0266
Alternate Lake Class ID: N/A

Lake Location

Primary County: Martin

Nearest Town: Sherburn

Legal Descriptions

Lake Center: Township - 103N Range - 32W Section - 33
PLS Section Lake Center: 10303233

All Legal Descriptions:

Martin County: Township - 102N Range - 32W Sections - 4, 5, 6
Township - 103N Range - 32W Sections - 31, 32, 33, 34

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Population Assessment dated 09/07/1993)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	State access on the NE end of lake. 103N 32W S34. State access on the NE end of lake. 103N; 32W; S34.
AC - 2	Private Property	Client Use Only	Concrete	Fox Lake Club access on east end of lake. 103N 32W S34. Fox Lake Club access on east end of lake. 103N; 32W; S34.

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

Lake Characteristics

Lake Area (planimetered acres): 1,041.00
GIS Lake Area (acres): 951.02
DOW Lake Area (acres): 967.00
Littoral Area (acres): 780.00
Area in MN (acres): 951.02
Maximum Depth (feet): 20.0
Mean Depth (feet): N/A

GIS Shoreline Length (miles): 11.31
Maximum Fetch (miles): 3.40
Fetch Orientation (degrees): 90
USGS Quad Map Number: X11b
USGS Quad 24K GIS Index: 4621

Watershed Characteristics

Major Watershed

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

Minor Watershed

Name: Fox L
 Watershed Number: 77
 Watershed size (acres): 4,023

Surveys and Investigations

Re-Survey: 09/07/2010, 09/11/2006, 09/11/2000, 09/04/1991, 09/23/1986, 09/16/1985.
Population Assessment: 09/02/2014, 09/03/2013, 09/04/2012, 09/06/2011, 09/08/2009, 09/02/2008, 09/10/2009, 09/12/2005, 09/07/2004, 09/08/2003, 09/09/2002, 09/10/2001, 08/30/1999, 08/31/1999, 09/02/1997, 09/03/1996, 09/05/1995, 09/06/1994, 09/07/1993, 09/01/1992, 09/13/1988, 09/08/1987, 10/05/1981.
Special Assessment: 04/29/2013, 03/20/2012, 04/25/2011, 07/28/2010, 05/20/2010, 04/21/2009, 05/01/2009, 05/10/2007, 04/16/2007, 09/25/2000, 09/08/1999, 10/21/1997.
Dissolved Oxygen Check: 01/20/2016, 02/24/2015, 01/03/2014, 01/08/2013, 12/28/2012, 02/16/2012, 02/24/2012.
Standard Survey: 09/05/2023, 09/06/2022, 08/30/2021, 09/08/2020, 09/03/2019, 09/04/2018, 09/05/2017, 09/06/2016, 08/31/2015.
Targeted Survey: 05/09/2022, 02/03/2020, 08/04/2017, 04/24/2017, 04/25/2016, 04/27/2015.

Current Water Level

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	09/07/2023	Low	-2.41	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

<u>Station ID</u>	<u>Location Description</u>
BM - 1	Top of concrete abutment at dam outlet.

Water Level History - Readings

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 1	09/07/2023	Low	-2.41	Above or below Benchmark
	09/09/2022	Low	-2.30	Above or below Benchmark
	09/01/2021	Low	-2.70	Above or below Benchmark
	09/10/2020	Normal	-2.40	Above or below Benchmark
	09/03/2019	Normal	-2.45	Above or below Benchmark
	09/05/2017	Normal	-2.00	Above or below Benchmark
	09/06/2016	Normal	-1.95	Above or below Benchmark
	09/01/2015	Normal	-2.40	Above or below Benchmark
	09/03/2014	Normal	-2.10	Above or below Benchmark
	09/06/2013	Low	-2.80	Above or below Benchmark
	09/04/2012	Low	-2.70	Above or below Benchmark
	09/07/2011	Low	-2.60	Above or below Benchmark
	09/10/2010	Normal	-1.80	Above or below Benchmark
	09/05/2009	N/A	N/A	Above or below Benchmark
	09/05/2008	N/A	-2.20	Above or below Benchmark
	09/10/2007	Normal	-0.90	Above or below Benchmark
09/12/2006	Normal	-2.10	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	-2.80	09/06/2013	-0.90	09/10/2007	1.90	-2.24	Above or below Benchmark (16)

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	09/07/2023	17.0	Surface	72.9	7.5
			1.0	72.9	7.0
			3.0	72.7	6.7
			6.0	72.7	6.7
			9.0	72.7	6.7
			12.0	72.7	6.8
			15.0	72.5	6.8
			17.0	72.5	6.6

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	09/07/2023	Surface	0.5	8.25	200	Green	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 6
First Set Date: 09/05/2023
Last Lift Date: 09/08/2023
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	73	12.17	0.25	0.55	1.69
BLC	Black Crappie	89	14.83	2.50	6.91	16.50
CCF	Channel Catfish	7	1.17	N/A	N/A	N/A
CAP	Common Carp	12	2.00	0.33	1.00	3.00
FRD	Freshwater Drum	710	118.33	4.00	11.75	32.25
GOS	Golden Shiner	1	0.17	0.25	0.50	1.54
HCR	Hybrid Crappie	2	0.33	N/A	N/A	N/A
WHC	White Crappie	187	31.17	0.67	2.65	10.38
Total Fish/Set:			180.17	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%
BIB	Bigmouth Buffalo	104.34	17.39	1.43	N/A	N/A	N/A
BLC	Black Crappie	12.21	2.03	0.14	0.15	0.20	0.26
CCF	Channel Catfish	15.53	2.59	2.22	N/A	N/A	N/A
CAP	Common Carp	71.85	11.97	5.99	1.87	3.41	5.24
FRD	Freshwater Drum	276.96	46.16	0.37	0.25	0.50	1.13
GOS	Golden Shiner	0.11	0.02	0.11	0.10	0.10	0.13
HCR	Hybrid Crappie	N/A	N/A	N/A	N/A	N/A	N/A
WHC	White Crappie	20.30	3.38	0.11	0.17	0.24	0.33
Total Pounds Fish/Set:			83.55	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: 11
First Set Date: 09/05/2023
Last Lift Date: 09/08/2023
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	185	16.82	0.20	0.25	0.75
BLC	Black Crappie	193	17.55	1.83	6.50	21.16
BLG	Bluegill	8	0.73	7.54	23.13	62.50
CAP	Common Carp	29	2.64	0.38	0.74	2.00
FRD	Freshwater Drum	106	9.64	0.50	1.17	4.19
GOS	Golden Shiner	1	0.09	0.17	0.30	0.83
LMB	Largemouth Bass	1	0.09	0.20	0.33	0.67
QBS	Quillback	2	0.18	N/A	N/A	N/A
WAE	Walleye	4	0.36	0.27	0.60	1.24
WHC	White Crappie	443	40.27	0.50	1.50	6.55
YEB	Yellow Bullhead	2	0.18	0.88	2.15	5.68
YEP	Yellow Perch	1	0.09	0.25	0.60	1.67
Total Fish/Set:			88.64	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%
BIB	Bigmouth Buffalo	267.01	24.27	1.55	2.50	4.13	5.65
BLC	Black Crappie	28.25	2.57	0.15	0.18	0.24	0.33
BLG	Bluegill	1.59	0.14	0.20	0.13	0.18	0.25
CAP	Common Carp	161.83	14.71	5.40	2.58	4.07	6.02
FRD	Freshwater Drum	38.69	3.52	0.36	0.43	0.79	1.21
GOS	Golden Shiner	0.09	0.01	0.09	0.07	0.10	0.13
LMB	Largemouth Bass	0.10	0.01	0.10	0.15	0.31	0.91
QBS	Quillback	2.86	0.26	1.43	N/A	N/A	N/A
WAE	Walleye	8.44	0.77	2.11	0.80	1.50	2.78
WHC	White Crappie	69.56	6.32	0.15	0.23	0.30	0.40
YEB	Yellow Bullhead	0.67	0.06	0.33	0.50	0.67	0.84
YEP	Yellow Perch	0.09	0.01	0.09	0.10	0.13	0.20
Total Pounds Fish/Set:			52.65	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 09/05/2023 and 09/08/2023)

	<u>BIB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>HCR</u>	<u>WHC</u>
< 3.00	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	2
4.00 - 4.49	-	-	-	-	-	-	-	-
4.50 - 4.99	-	1	-	-	-	-	-	-
5.00 - 5.49	-	3	-	-	4	-	-	34
5.50 - 5.99	-	10	-	-	6	-	-	45
6.00 - 6.49	-	40	-	-	1	-	1	73
6.50 - 6.99	-	23	-	-	14	1	-	32
7.00 - 7.49	-	12	-	-	33	-	1	2
7.50 - 7.99	-	-	-	-	19	-	-	-
8.00 - 8.49	-	-	-	-	26	-	-	-
8.50 - 8.99	-	-	-	-	28	-	-	-
9.00 - 9.49	-	-	-	1	32	-	-	-
9.50 - 9.99	-	-	-	-	86	-	-	-
10.00 - 10.49	-	-	-	-	155	-	-	-
10.50 - 10.99	-	-	-	-	215	-	-	-
11.00 - 11.49	-	-	-	-	88	-	-	-
11.50 - 11.99	2	-	-	-	2	-	-	-
12.00 - 12.99	27	-	-	1	1	-	-	-
13.00 - 13.99	27	-	-	1	1	-	-	-
14.00 - 14.99	13	-	-	1	-	-	-	-
15.00 - 15.99	3	-	-	-	-	-	-	-
16.00 - 16.99	-	-	2	1	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	1	-	-	-	-	-
23.00 - 23.99	-	-	3	-	-	-	-	-
24.00 - 24.99	-	-	2	1	-	-	-	-
25.00 - 25.99	-	-	-	1	-	-	-	-
26.00 - 26.99	1	-	2	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	2	-	-	-	-	-
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>BIB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>HCR</u>	<u>WHC</u>
Total	73	89	12	7	711	1	2	188
Min. Length	11.54	4.84	16.54	9.06	5.20	6.69	6.38	3.50
Max. Length	26.81	7.48	28.35	25.63	13.43	6.69	7.05	7.28
Mean Length	13.46	6.39	23.75	16.47	9.70	6.69	6.71	6.11
# Measured	73	88	12	7	164	1	2	105
No Lengths for	0	1	0	0	546	0	0	82

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 09/05/2023 and 09/08/2023)

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>FRD</u>	<u>YFRD</u>	<u>GOS</u>	<u>LMB</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	1	1	-	2	1	-	-	-	-	-	-	-
5.00 - 5.49	-	2	-	-	5	-	-	1	-	-	11	-	-
5.50 - 5.99	-	5	3	-	2	-	-	-	-	-	45	-	1
6.00 - 6.49	-	39	2	-	-	-	-	-	-	-	101	-	-
6.50 - 6.99	-	83	1	-	2	-	1	-	-	-	158	-	-
7.00 - 7.49	-	45	-	-	3	-	-	-	-	-	69	1	-
7.50 - 7.99	-	17	-	-	6	-	-	-	-	-	19	-	-
8.00 - 8.49	-	-	1	-	5	1	-	-	-	-	16	-	-
8.50 - 8.99	-	1	-	-	10	-	-	-	-	-	5	-	-
9.00 - 9.49	-	-	-	-	10	-	-	-	1	9	-	-	-
9.50 - 9.99	1	1	-	-	11	-	-	-	-	2	1	-	-
10.00 - 10.49	2	-	-	-	9	-	-	-	-	2	-	-	-
10.50 - 10.99	4	-	-	-	11	-	-	-	-	7	-	-	-
11.00 - 11.49	9	-	-	-	8	1	-	-	-	-	-	-	-
11.50 - 11.99	23	-	-	-	7	2	-	-	-	-	-	-	-
12.00 - 12.99	51	-	-	2	6	-	-	-	-	-	-	-	-
13.00 - 13.99	47	-	-	1	4	-	-	-	1	-	-	-	-
14.00 - 14.99	23	-	-	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	16	-	-	2	-	-	-	-	1	1	-	-	-
16.00 - 16.99	2	-	-	1	-	-	-	-	1	-	-	-	-
17.00 - 17.99	-	-	-	1	-	-	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	1	-	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	1	-	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	5	-	-	2	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	4	-	-	-	-	-	1	-	-	-
25.00 - 25.99	-	-	-	2	-	-	-	-	-	-	-	-	-
26.00 - 26.99	1	-	-	5	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	2	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	2	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	3	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>FRD</u>	<u>YFRD</u>	<u>GOS</u>	<u>LMB</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
Total	184	194	8	29	101	5	1	1	2	4	444	2	1
Min. Length	9.65	4.96	4.84	12.80	4.72	4.65	6.77	5.47	13.82	9.49	5.24	7.32	5.94
Max. Length	26.42	9.88	8.23	30.63	13.54	11.89	6.77	5.47	15.28	24.80	10.87	9.84	5.94
Mean Length	13.61	6.80	6.18	23.01	9.47	9.52	6.77	5.47	14.55	16.50	6.63	8.58	5.94
# Measured	137	99	8	28	84	5	1	1	2	4	212	2	1
No Lengths for	48	94	0	1	17	0	0	0	0	0	231	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	3	0	N/A	0	N/A

(1) Key to sampling gear abbreviations:

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

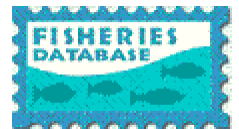
(2) Gender: If identified and reported.

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 09/11/2023), 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.

(This page is intentionally blank)

(This page is intentionally blank)

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Fox
DOW Number: 46-0109-00

Survey Type: Standard Survey
Survey ID Date: 09/05/2023

Survey Status: Field Work Complete

The following 21 (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. Status Of Fishery And Field Notes
21. 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 09/11/2023 may not be reflected in the Distribution tables until 09/12/2023.

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).