

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

Survey Type: Standard Survey
Survey ID Date: 09/06/2022

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, 09/10/2007, 09/12/2005, 09/07/2004, 09/08/2003, 09/09/2002, 09/10/2001, 08/30/1999, 08/31/1998, 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, 05/01/2008, 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, 02/24/2010.
Standard Survey: 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

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	09/09/2022	Low	-2.30	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	Top of concrete abutment at dam outlet.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	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	-2.23	Above or below Benchmark (15)

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	09/06/2022	16.6	0.2	73.0	5.7
			2.0	73.0	5.5
			4.0	73.0	5.2
			6.0	72.9	4.8
			8.0	72.9	4.7
			10.0	72.9	4.5
			12.0	72.9	4.4
			14.0	72.7	4.5
			16.0	72.7	4.5

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	09/06/2022	Surface	0.7	8.50	220	Green	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 6
First Set Date: 09/06/2022
Last Lift Date: 09/09/2022
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	81	13.50	0.25	0.55	1.69
BLC	Black Crappie	43	7.17	2.50	6.91	16.50
CCF	Channel Catfish	2	0.33	N/A	N/A	N/A
CAP	Common Carp	9	1.50	0.33	1.00	3.00
FRD	Freshwater Drum	666	111.00	4.00	11.75	32.25
WHC	White Crappie	122	20.33	0.67	2.65	10.38
YEP	Yellow Perch	1	0.17	2.00	10.50	27.94
Total Fish/Set:			154.00	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	97.95	16.32	1.21	N/A	N/A	N/A
BLC	Black Crappie	4.69	0.78	0.11	0.15	0.20	0.26
CCF	Channel Catfish	10.67	1.78	5.34	N/A	N/A	N/A
CAP	Common Carp	24.15	4.02	8.05	1.87	3.41	5.24
FRD	Freshwater Drum	328.90	54.82	0.54	0.25	0.50	1.13
WHC	White Crappie	11.67	1.94	0.10	0.17	0.24	0.33
YEP	Yellow Perch	0.11	0.02	0.11	0.10	0.13	0.18
Total Pounds Fish/Set:			79.69	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: 09/06/2022
Last Lift Date: 09/09/2022
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 24 ¹		
				25%	50%	75%
BIB	Bigmouth Buffalo	117	10.64	0.20	0.25	0.75
BLC	Black Crappie	190	17.27	1.83	6.50	21.16
BLG	Bluegill	29	2.64	7.54	23.13	62.50
CAP	Common Carp	11	1.00	0.38	0.74	2.00
FRD	Freshwater Drum	25	2.27	0.50	1.17	4.19
GOS	Golden Shiner	6	0.55	0.17	0.30	0.83
QBS	Quillback	3	0.27	N/A	N/A	N/A
WAE	Walleye	8	0.73	0.27	0.60	1.24
WHC	White Crappie	735	66.82	0.50	1.50	6.55
YEB	Yellow Bullhead	1	0.09	0.88	2.15	5.68
YEP	Yellow Perch	6	0.55	0.25	0.60	1.67
Total Fish/Set:			102.82	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	362.61	32.96	3.10	2.50	4.13	5.65
BLC	Black Crappie	36.46	3.31	0.19	0.18	0.24	0.33
BLG	Bluegill	3.10	0.28	0.11	0.13	0.18	0.25
CAP	Common Carp	86.63	7.88	7.88	2.58	4.07	6.02
FRD	Freshwater Drum	11.68	1.06	0.47	0.43	0.79	1.21
GOS	Golden Shiner	0.52	0.05	0.09	0.07	0.10	0.13
QBS	Quillback	5.42	0.49	1.81	N/A	N/A	N/A
WAE	Walleye	14.88	1.35	1.86	0.80	1.50	2.78
WHC	White Crappie	131.07	11.92	0.18	0.23	0.30	0.40
YEB	Yellow Bullhead	0.39	0.04	0.39	0.50	0.67	0.84
YEP	Yellow Perch	0.53	0.05	0.09	0.10	0.13	0.20
Total Pounds Fish/Set:			59.39	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 09/06/2022 and 09/09/2022)

	<u>BIB</u>	<u>BLC</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>WHC</u>	<u>YEP</u>
< 3.00	-	-	-	-	2	-	-
3.00 - 3.49	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	2	-	-
4.00 - 4.49	-	-	-	-	-	-	-
4.50 - 4.99	-	4	-	-	3	4	-
5.00 - 5.49	-	8	-	-	1	37	-
5.50 - 5.99	-	8	-	-	-	40	-
6.00 - 6.49	-	14	-	-	-	29	1
6.50 - 6.99	-	7	-	-	2	9	-
7.00 - 7.49	-	2	-	-	25	2	-
7.50 - 7.99	-	-	-	-	37	-	-
8.00 - 8.49	-	-	-	-	43	1	-
8.50 - 8.99	1	-	-	-	35	-	-
9.00 - 9.49	-	-	-	-	45	-	-
9.50 - 9.99	-	-	-	-	59	-	-
10.00 - 10.49	1	-	-	-	126	-	-
10.50 - 10.99	-	-	-	-	125	-	-
11.00 - 11.49	4	-	-	-	39	-	-
11.50 - 11.99	7	-	-	-	-	-	-
12.00 - 12.99	42	-	-	-	17	-	-
13.00 - 13.99	20	-	-	1	94	-	-
14.00 - 14.99	3	-	-	-	10	-	-
15.00 - 15.99	1	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-
24.00 - 24.99	-	-	1	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-
26.00 - 26.99	-	-	1	-	-	-	-
27.00 - 27.99	-	-	1	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	1	-	-	-
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>WHC</u>	<u>YEP</u>
Total	79	43	3	2	665	122	1
Min. Length	8.74	4.61	24.61	13.46	2.99	4.88	6.18
Max. Length	15.43	7.01	27.17	30.28	14.88	8.35	6.18
Mean Length	12.66	6.00	25.97	21.87	10.50	5.88	6.18
# Measured	75	40	3	2	214	71	1
No Lengths for	6	3	6	0	452	51	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

Length Frequency Distribution for TN

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

(Field work conducted between 09/06/2022 and 09/09/2022)

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>FRD</u>	<u>GOS</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	2	-	-	-	-	-	-	-	-
3.50 - 3.99	-	1	4	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	2	-	-	-	-	-	-	-	-
4.50 - 4.99	-	3	6	-	-	-	-	-	-	-	-
5.00 - 5.49	-	10	4	-	1	-	-	-	41	-	-
5.50 - 5.99	-	9	7	-	-	3	-	-	171	-	5
6.00 - 6.49	-	33	2	-	-	1	-	-	153	-	2
6.50 - 6.99	-	64	1	-	1	3	-	-	127	-	-
7.00 - 7.49	-	52	1	-	1	-	-	-	47	-	-
7.50 - 7.99	-	3	-	-	2	-	-	-	49	-	-
8.00 - 8.49	-	2	-	-	1	-	-	-	27	-	-
8.50 - 8.99	-	2	-	-	-	-	-	-	38	-	-
9.00 - 9.49	-	3	-	-	1	-	-	-	32	1	-
9.50 - 9.99	1	2	-	-	2	-	-	-	30	-	-
10.00 - 10.49	1	2	-	-	2	-	-	-	20	-	-
10.50 - 10.99	5	-	-	-	2	-	-	-	-	-	-
11.00 - 11.49	7	1	-	-	3	-	-	-	-	-	-
11.50 - 11.99	9	-	-	-	3	-	1	-	-	-	-
12.00 - 12.99	25	3	-	2	2	-	1	-	-	-	-
13.00 - 13.99	17	-	-	2	1	-	-	-	-	-	-
14.00 - 14.99	8	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	1	-	-	-	-	-	-	2	-	-	-
16.00 - 16.99	2	-	-	-	-	-	-	2	-	-	-
17.00 - 17.99	1	-	-	-	-	-	-	1	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	2	-	-	-
19.00 - 19.99	-	-	-	-	-	-	-	1	-	-	-
20.00 - 20.99	-	-	-	-	-	-	1	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	3	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	1	-	-	-	-	-	-	-	-	-	-
25.00 - 25.99	5	-	-	-	-	-	-	-	-	-	-
26.00 - 26.99	3	-	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	1	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	3	-	-	-	-	-	-	-
29.00 - 29.99	1	-	-	1	-	-	-	-	-	-	-
30.00 - 30.99	3	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	1	-	-	2	-	-	-	-	-	-	-
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>GOS</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>YEB</u>	<u>YEP</u>
Total	94	190	29	11	22	7	3	8	735	1	7
Min. Length	9.72	3.98	3.23	12.76	5.16	5.55	11.57	15.43	5.24	9.02	5.55
Max. Length	32.01	12.99	7.48	32.40	13.23	6.57	20.28	19.29	10.28	9.02	6.30
Mean Length	15.27	6.89	5.08	23.57	10.09	6.17	14.90	17.27	6.88	9.02	5.94
# Measured	94	167	29	11	22	5	3	8	264	1	5
No Lengths for	23	23	0	0	3	1	0	0	471	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	Painted Turtle	4	0	N/A	0	N/A
	Snapping Turtle	2	2	14.88 - 16.71 - 18.54	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 09/12/2022), 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: 20210824-RJE. Data Date: 09/12/2022 at 3:12 pm .

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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: Fox

Survey Type: Standard Survey

DOW Number: 46-0109-00

Survey ID Date: 09/06/2022

Survey Status: Field Work Complete

The following 20 (of 33) 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. Catch Summary (Pre-1993 Format) (added to revision 20201001)
16. Length At Capture With Last Incremental Length*
17. Back-Calculated Lengths
18. Age Class Frequency Distributions
19. Status Of Fishery And Field Notes
20. 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 09/12/2022 may not be reflected in the Distribution tables until 09/13/2022.

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