



Minnesota Department of Natural Resources

Fisheries Management

LAKE SURVEY REPORT



DRAFT VERSION - PRELIMINARY DATA (AS OF 08/11/2016)

Lake Name: Shetek

Survey Type: Standard Survey

DOW Number: 51-0046-00

Survey ID Date: 08/08/2016

Lake Identification

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

DNR Sounding Map Number: B0292
Alternate Lake Class ID: N/A

Lake Location

Primary County: Murray

Nearest Town: Currie

Legal Descriptions

Lake Center: Township - 108N Range - 40W Section - 30
PLS Section Lake Center: 10804030

All Legal Descriptions:

Murray County: Township - 107N Range - 40W Sections - 6, 7
Township - 107N Range - 41W Sections - 1, 2, 11, 12
Township - 108N Range - 40W Sections - 18, 19, 20, 29, 30, 31, 32
Township - 108N Range - 41W Sections - 11, 13, 14, 24, 35, 36

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

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

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Carry-In	CARRY IN ACCESS ON INLET (NORTHWEST SIDE OF LAKE).
AC - 2	DNR	Fee/Permit needed	Concrete	DNR OWNED ACCESS AT THE STATE PARK (EAST SIDE OF LAKE).
AC - 4	DNR	Open to Public use	Concrete	DNR OWNED ACCESS ON SOUTHWEST SIDE OF LAKE.

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

Lake Characteristics

Lake Area (planimetered acres):	3,596.00	GIS Shoreline Length (miles):	36.04
GIS Lake Area (acres):	3,462.23	Maximum Fetch (miles):	2.60
DOW Lake Area (acres):	3,596.00	Fetch Orientation (degrees):	45
Littoral Area (acres):	3,462.22	USGS Quad Map Number:	V07b
Area in MN (acres):	3,462.23	USGS Quad 24K GIS Index:	4213
Maximum Depth (feet):	10.0		
Mean Depth (feet):	5.0		

Watershed Characteristics**Major Watershed**

Name: Des Moines-Headwaters
 Watershed Number: 51
 Watershed size (acres): 798,595

Minor Watershed

Name: L Shetek
 Watershed Number: 78
 Watershed size (acres): 21,416

Surveys and Investigations

Re-Survey: 08/07/2006, 08/10/1992, 07/26/1983.

Population Assessment: 08/04/2014, 08/06/2012, 08/09/2010, 07/20/2009, 08/11/2008, 07/23/2007, 08/05/2002, 08/03/1998, 08/05/1996, 08/08/1988.

Special Assessment: 09/26/2000, 10/13/1998, 10/10/1995, 10/25/1994, 10/18/1993, 07/23/1956.

Creel Survey: 05/09/1998.

Winter Kill Assessment: 04/13/2010.

Dissolved Oxygen Check: 02/16/2016, 02/18/2015, 12/31/2013, 01/02/2013, 01/11/2012, 12/28/2010, 01/04/2010.

External Management Survey: 06/29/2007.

Standard Survey: 08/08/2016.

Current Water Level

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/08/2016	High	0.10	Above or below Benchmark

Benchmark and Gauge Descriptions / Locations

Station ID	Location Description
BM - 1	top center of the currie dam

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/08/2016	High	0.10	Above or below Benchmark
	08/05/2014	Normal	0.15	Above or below Benchmark
	07/23/2009	Low	0.00	Above or below Benchmark
	08/15/2008	Low	-0.10	Above or below Benchmark
GA - 1	08/05/2014	Normal	4.60	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	-0.10	08/15/2008	0.15	08/05/2014	0.25	0.04	Above or below Benchmark (4)
GA - 1	4.60	08/05/2014	4.60	08/05/2014	0.00	4.60	Direct Gauge Reading (1)

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	08/08/2016	11.0	Surface	76.8	6.9
			2.0	76.8	6.9
			4.0	76.8	6.8
			6.0	76.8	6.8
			8.0	76.8	6.8
			10.0	76.8	6.4

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	08/08/2016	Surface	0.7	8.82	180	Green	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 6
First Set Date: 08/08/2016
Last Lift Date: 08/11/2016
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BIB	Bigmouth Buffalo	15	2.50	0.33	1.00	6.11
BLB	Black Bullhead	27	4.50	4.56	23.42	83.00
BLC	Black Crappie	13	2.17	0.83	2.63	11.10
BRB	Brown Bullhead	1	0.17	0.60	1.80	7.67
CCF	Channel Catfish	99	16.50	N/A	N/A	N/A
CAP	Common Carp	6	1.00	0.52	1.80	9.13
WAE	Walleye	44	7.33	3.22	7.67	15.33
YEP	Yellow Perch	2	0.33	3.00	8.94	22.50
Total Fish/Set:			34.50	* 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 41*		
					25%	50%	75%
BIB	Bigmouth Buffalo	84.95	14.16	5.66	N/A	N/A	N/A
BLB	Black Bullhead	16.07	2.68	0.60	0.21	0.38	0.60
BLC	Black Crappie	4.58	0.76	0.35	0.17	0.25	0.37
BRB	Brown Bullhead	0.66	0.11	0.66	0.38	0.63	1.07
CCF	Channel Catfish	125.61	20.93	1.27	N/A	N/A	N/A
CAP	Common Carp	42.42	7.07	7.07	1.00	2.39	4.88
WAE	Walleye	34.82	5.80	0.79	0.88	1.37	1.90
YEP	Yellow Perch	0.17	0.03	0.09	0.14	0.24	0.36
Total Pounds Fish/Set:			51.55	* Quartiles for Mean Weight			

Net Catch Summary by Numbers for TN

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

Number of Sets: 14
 First Set Date: 08/08/2016
 Last Lift Date: 08/11/2016
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BIB	Bigmouth Buffalo	17	1.21	0.22	0.48	1.45
BLB	Black Bullhead	6	0.43	1.33	14.73	78.13
BLC	Black Crappie	141	10.07	0.98	2.96	12.33
BLG	Bluegill	1	0.07	1.05	3.00	14.93
BRB	Brown Bullhead	2	0.14	0.38	2.47	9.80
CCF	Channel Catfish	1	0.07	N/A	N/A	N/A
CAP	Common Carp	31	2.21	0.70	1.80	5.11
NOP	Northern Pike	9	0.64	N/A	N/A	N/A
QBS	Quillback	8	0.57	N/A	N/A	N/A
WAE	Walleye	65	4.64	0.31	0.73	1.69
WHC	White Crappie	6	0.43	0.53	1.82	15.86
WTS	White Sucker	17	1.21	0.25	0.50	1.29
YEB	Yellow Bullhead	4	0.29	0.50	1.60	4.05
YEP	Yellow Perch	13	0.93	0.25	0.81	2.62
Total Fish/Set:			22.93	* 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 41*		
					25%	50%	75%
BIB	Bigmouth Buffalo	107.39	7.67	6.32	1.25	3.18	5.07
BLB	Black Bullhead	2.87	0.21	0.48	0.21	0.36	0.59
BLC	Black Crappie	37.16	2.65	0.26	0.23	0.34	0.49
BLG	Bluegill	0.07	0.00	0.07	0.16	0.25	0.38
BRB	Brown Bullhead	1.52	0.11	0.76	0.36	0.58	0.91
CCF	Channel Catfish	0.07	0.01	0.07	N/A	N/A	N/A
CAP	Common Carp	207.17	14.80	6.68	2.33	4.10	5.64
NOP	Northern Pike	32.58	2.33	3.62	N/A	N/A	N/A
QBS	Quillback	16.05	1.15	2.01	N/A	N/A	N/A
WAE	Walleye	77.39	5.53	1.19	0.85	1.63	2.41
WHC	White Crappie	2.44	0.17	0.41	0.21	0.34	0.53
WTS	White Sucker	18.72	1.34	1.10	1.35	1.97	2.62
YEB	Yellow Bullhead	2.69	0.19	0.67	0.40	0.60	0.84
YEP	Yellow Perch	3.26	0.23	0.25	0.13	0.20	0.31
Total Pounds Fish/Set:			36.39	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 08/08/2016 and 08/11/2016)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BRB</u>	<u>CAP</u>	<u>CCF</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	-	-	2	-	-	-	-	1
6.00 - 6.49	-	-	2	-	-	-	-	1
6.50 - 6.99	-	3	-	-	-	-	-	-
7.00 - 7.49	-	-	-	-	-	-	-	-
7.50 - 7.99	-	1	-	-	-	-	-	-
8.00 - 8.49	-	-	1	-	1	-	-	-
8.50 - 8.99	-	-	5	-	-	-	1	-
9.00 - 9.49	-	-	2	-	-	-	2	-
9.50 - 9.99	-	-	-	-	-	-	4	-
10.00 - 10.49	-	11	1	-	-	-	3	-
10.50 - 10.99	-	9	-	1	-	-	3	-
11.00 - 11.49	-	3	-	-	-	-	2	-
11.50 - 11.99	-	-	-	-	-	-	5	-
12.00 - 12.99	-	-	-	-	-	23	10	-
13.00 - 13.99	-	-	-	-	-	39	4	-
14.00 - 14.99	-	-	-	-	-	3	2	-
15.00 - 15.99	-	-	-	-	-	-	2	-
16.00 - 16.99	-	-	-	-	-	10	-	-
17.00 - 17.99	1	-	-	-	-	7	1	-
18.00 - 18.99	1	-	-	-	-	7	-	-
19.00 - 19.99	2	-	-	-	-	1	1	-
20.00 - 20.99	6	-	-	-	-	3	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-
22.00 - 22.99	3	-	-	-	-	-	2	-
23.00 - 23.99	-	-	-	-	1	1	-	-
24.00 - 24.99	1	-	-	-	-	5	-	-
25.00 - 25.99	-	-	-	-	2	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-	-
27.00 - 27.99	1	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	1	-	-	-
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>BLB</u>	<u>BLC</u>	<u>BRB</u>	<u>CAP</u>	<u>CCF</u>	<u>WAE</u>	<u>YEP</u>
Total	15	27	13	1	5	99	42	2
Min. Length	17.20	6.61	5.71	10.94	8.27	12.09	8.70	5.75
Max. Length	27.05	11.22	10.43	10.94	29.65	24.76	22.99	6.02
Mean Length	21.09	9.98	8.10	10.94	22.50	15.18	12.70	5.89
# Measured	15	27	13	1	5	99	42	2
No Lengths for	0	0	0	0	1	0	2	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 08/08/2016 and 08/11/2016)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>CAP</u>	<u>CCF</u>	<u>NOP</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	1	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	1	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	1	-	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	6	-	-	-	-	-	-	-	-	-	-	-
5.50 - 5.99	-	1	35	-	-	-	-	-	-	-	-	-	-	2
6.00 - 6.49	-	-	24	-	-	-	-	-	-	-	-	-	-	2
6.50 - 6.99	-	-	4	-	-	-	1	-	-	-	-	-	-	-
7.00 - 7.49	-	-	4	-	-	-	-	-	-	-	-	-	-	-
7.50 - 7.99	-	-	3	-	-	-	-	-	-	-	1	-	-	-
8.00 - 8.49	-	-	10	-	-	-	-	-	-	-	4	-	-	2
8.50 - 8.99	-	-	19	-	-	-	-	-	-	-	-	-	1	2
9.00 - 9.49	-	-	22	-	-	-	-	-	1	2	-	-	-	2
9.50 - 9.99	-	-	6	-	-	-	-	-	1	3	-	-	-	1
10.00 - 10.49	-	3	3	-	-	-	-	-	-	1	-	1	-	-
10.50 - 10.99	-	2	-	-	-	-	-	-	-	3	-	2	-	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	4	-	1	2	-
11.50 - 11.99	-	-	-	-	1	-	-	-	-	5	1	1	-	-
12.00 - 12.99	-	-	-	-	1	1	-	-	-	11	-	1	-	-
13.00 - 13.99	-	-	-	-	-	1	-	-	-	12	-	2	-	-
14.00 - 14.99	-	-	-	-	-	-	-	-	1	5	-	5	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-	-	6	-	4	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	1	3	-	-	-	-
17.00 - 17.99	-	-	-	-	-	2	-	-	1	-	-	-	-	-
18.00 - 18.99	1	-	-	-	-	1	-	-	3	-	-	-	-	-
19.00 - 19.99	1	-	-	-	-	1	-	-	-	-	-	-	-	-
20.00 - 20.99	5	-	-	-	-	1	-	2	-	1	-	-	-	-
21.00 - 21.99	2	-	-	-	-	1	-	-	-	-	-	-	-	-
22.00 - 22.99	2	-	-	-	-	3	-	1	-	3	-	-	-	-
23.00 - 23.99	4	-	-	-	-	1	-	-	-	-	-	-	-	-
24.00 - 24.99	2	-	-	-	-	4	-	-	-	1	-	-	-	-
25.00 - 25.99	-	-	-	-	-	2	-	1	-	2	-	-	-	-
26.00 - 26.99	-	-	-	-	-	4	-	-	-	1	-	-	-	-
27.00 - 27.99	-	-	-	-	-	4	-	1	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	3	-	1	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	1	-	1	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	1	-	1	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BRB</u>	<u>CAP</u>	<u>CCF</u>	<u>NOP</u>	<u>QBS</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	17	6	138	1	2	31	1	9	8	63	6	17	3	11
Min. Length	18.70	5.91	3.66	4.41	11.50	12.20	6.85	20.39	9.17	9.33	7.87	10.43	8.94	5.83
Max. Length	24.80	10.79	10.47	4.41	12.24	30.71	6.85	32.17	18.66	26.02	11.65	15.28	11.42	9.96
Mean Length	21.98	9.70	7.35	4.41	11.87	23.97	6.85	26.38	15.33	14.16	8.71	13.42	10.46	7.82
# Measured	17	6	136	1	2	31	1	9	8	60	6	17	3	11
No Lengths for	0	0	5	0	0	0	0	0	0	5	0	0	1	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

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	7	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 08/11/2016), 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: Shetek

Survey Type: Standard Survey

DOW Number: 51-0046-00

Survey ID Date: 08/08/2016

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 08/11/2016 may not be reflected in the Distribution tables until 08/12/2016.

The following survey component was flagged to be specifically excluded from this report: TN - 14

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