

Lake Name: Little Sturgeon

Survey Type: Targeted Survey

DOW Number: 69-1290-00

Survey ID Date: 06/12/2023

**TARGETED SURVEY  
Gill Netting  
Water Quality Measurement**

**Lake Identification**

Alternate Lake Name: N/A  
Primary Lake Class ID: 5

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

**Lake Location**

Primary County: St. Louis

Nearest Town: Chisholm

**Legal Descriptions**

Lake Center: Township - 60N Range - 21W Section - 30  
PLS Section Lake Center: 6002130

**All Legal Descriptions:**

St. Louis County: Township - 60N Range - 21W Sections - 19, 20, 30

**Area Office**

Area Name: Grand Rapids  
Region Name: Northeast

ORG Code: F216  
Region Number: 2

**Lake Access**

(Information based on Standard Survey dated 06/13/2016)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	Access is located on the northeast shore at the outlet.

**Lake Characteristics**

Lake Area (planimetered acres): 266.00  
GIS Lake Area (acres): 272.40  
DOW Lake Area (acres): 247.00  
Littoral Area (acres): 54.00  
Area in MN (acres): 272.40  
Maximum Depth (feet): 22.0  
Mean Depth (feet): N/A

GIS Shoreline Length (miles): 3.55  
Maximum Fetch (miles): 1.21  
Fetch Orientation (degrees): 45  
USGS Quad Map Number: H17a  
USGS Quad 24K GIS Index: 1434

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

**Watershed Characteristics**

**Major Watershed**

Name: Little Fork River  
 Watershed Number: 76  
 Watershed size (acres): 1,198,291

**Minor Watershed**

Name: Sturgeon R  
 Watershed Number: 62  
 Watershed size (acres): 26,568

**Surveys and Investigations**

**Initial Survey:** 06/18/1984.  
**Population Assessment:** 06/08/2009, 06/10/2002, 06/27/1995, 06/27/1990.  
**Special Assessment:** 08/22/1949.  
**Standard Survey:** 06/13/2016.  
**Targeted Survey:** 06/12/2023.

**Water Level History - Readings**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/13/2016	Normal	-2.80	Above or below Benchmark
	06/08/2009	Normal	-3.43	Above or below Benchmark
BM - 2	06/13/2016	Normal	-5.90	Above or below Benchmark
	06/08/2009	Normal	-6.44	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	-3.43	06/08/2009	-2.80	06/13/2016	0.63	-3.12	Above or below Benchmark (2)
BM - 2	-6.44	06/08/2009	-5.90	06/13/2016	0.54	-6.17	Above or below Benchmark (2)

**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	06/12/2023	18.0	Surface	69.3	8.9
			3.0	69.1	8.8
			6.0	68.9	8.7
			7.0	68.7	8.6
			8.0	68.2	8.4
			9.0	63.7	5.5
			10.0	59.5	4.3
			11.0	56.8	3.4
			12.0	53.6	1.9
			13.0	52.2	1.6
			14.0	51.1	1.2
			15.0	50.5	1.0
			18.0	49.3	0.6

**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	06/12/2023	Surface	4.5	N/A	N/A	Brown	N/A

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

**Net Catch Summary by Numbers for GN**

Standard gill net sets

Number of Sets: 6  
 First Set Date: 06/12/2023  
 Last Lift Date: 06/14/2023  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 5 <sup>1</sup>		
				25%	50%	75%
BLC	Black Crappie	16	2.67	0.40	1.50	3.33
BLG	Bluegill	4	0.67	N/A	N/A	N/A
NOP	Northern Pike	35	5.83	1.77	3.18	5.50
TLC	Tullibee (Cisco)	2	0.33	1.40	5.60	13.05
WAE	Walleye	5	0.83	2.00	5.00	9.67
WTS	White Sucker	10	1.67	2.33	4.75	8.69
YEP	Yellow Perch	10	1.67	1.71	5.22	14.13
Total Fish/Set:			13.67	<sup>1</sup> 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 <sup>2</sup>	Quartiles for Lake Class 5 <sup>1</sup>		
					25%	50%	75%
BLC	Black Crappie	2.82	0.47	0.18	0.20	0.30	0.50
BLG	Bluegill	0.25	0.04	0.06	N/A	N/A	N/A
NOP	Northern Pike	73.72	12.29	2.11	1.85	2.61	3.70
TLC	Tullibee (Cisco)	0.90	0.15	0.45	0.33	0.52	1.01
WAE	Walleye	14.97	2.50	2.99	0.82	1.27	2.01
WTS	White Sucker	21.13	3.52	2.11	1.50	1.86	2.23
YEP	Yellow Perch	1.64	0.27	0.16	0.10	0.15	0.21
Total Pounds Fish/Set:			19.24	<sup>1</sup> Quartiles for Mean Weight			

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

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

**Length Frequency Distribution for GN**

**Standard gill net sets**

(Field work conducted between 06/12/2023 and 06/14/2023)

	<u>BLC</u>	<u>BLG</u>	<u>NOP</u>	<u>TLC</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-
4.00 - 4.49	-	2	-	-	-	-	-
4.50 - 4.99	3	2	-	-	-	-	-
5.00 - 5.49	2	-	-	-	-	-	-
5.50 - 5.99	1	-	-	-	-	-	3
6.00 - 6.49	1	-	-	-	-	-	2
6.50 - 6.99	1	-	-	-	-	-	2
7.00 - 7.49	2	-	-	-	-	-	-
7.50 - 7.99	3	-	-	-	-	-	1
8.00 - 8.49	1	-	-	-	-	-	1
8.50 - 8.99	1	-	-	-	-	-	-
9.00 - 9.49	1	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	1
10.00 - 10.49	-	-	-	1	-	-	-
10.50 - 10.99	-	-	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	1	-
11.50 - 11.99	-	-	-	-	-	-	-
12.00 - 12.99	-	-	-	1	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	1	-
16.00 - 16.99	-	-	-	-	-	1	-
17.00 - 17.99	-	-	1	-	-	4	-
18.00 - 18.99	-	-	1	-	1	2	-
19.00 - 19.99	-	-	4	-	1	1	-
20.00 - 20.99	-	-	8	-	1	-	-
21.00 - 21.99	-	-	9	-	1	-	-
22.00 - 22.99	-	-	3	-	-	-	-
23.00 - 23.99	-	-	4	-	-	-	-
24.00 - 24.99	-	-	3	-	1	-	-
25.00 - 25.99	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-
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>BLC</u>	<u>BLG</u>	<u>NOP</u>	<u>TLC</u>	<u>WAE</u>	<u>WTS</u>	<u>YEP</u>
Total	16	4	35	2	5	10	10
Min. Length	4.53	4.06	17.17	10.31	18.43	11.18	5.75
Max. Length	9.25	4.92	30.51	12.24	24.21	19.17	9.96
Mean Length	6.69	4.43	21.89	11.28	20.65	16.96	6.96
# Measured	16	4	35	2	5	10	10
No Lengths for	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.

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

---

**Age Class Frequency Distribution**

Species & SS	Number of Fish (2)			Number of Fish in Year Class ('yy) and Age Class																
				'23	'22	'21	'20	'19	'18	'17	'16	'15	'14	'13	'12	'11	'10	'09	<'09	
Type (1)	Aged	Keyed	Unaged	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15+	
<b>Walleye</b>																				
GN	5	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	1

**(1) Key to Sampling Station (SS) Type abbreviations:**

GN = Standard gill net sets

**(2) Notes:**

Number of Fish Aged: Fish that were aged from bony parts.

Number of Fish Keyed: Fish assigned an age with an age-length key or by expansion of mesh or station age distributions.

Number of Fish Unaged: Fish that were not aged and were not assigned an age.

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

---

## Survey Crew Notes

null

Region Signed by user 'Daweitze' on 03/15/2024

Region Signed by user 'Daweitze' on 03/15/2024

---

## Field Notes - General Field

Only one boat on the lake other than ours. Found a floating dead deer. Cold and foggy the second day of picking up the nets.

Survey field crew: Dylan Von Barga and Steve Mero

---

## Discussion

Little Sturgeon Lake is located approximately 14 miles northwest of Chisholm, MN and within the Little Fork River Watershed. The 247-acre lake has 54 littoral acres with a 22 foot maximum depth, and is moderately developed along the 3.6 mile shoreline. A public access is located on the north side of the Sturgeon River between Little Sturgeon and Side Lake with parking for five rigs. Little Sturgeon is part of the larger Sturgeon Lake chain and outlets through the Sturgeon River. There are inlets from both Sturgeon and South Sturgeon Lakes. Little Sturgeon Lake has low fertility and very soft water, both of which limit fish production.

The 2017 Lake Management Plan (LMP) lists Black Crappie and Bluegill as primary species for management and Walleye as a secondary species. The LMP goals were to: maintain a Black Crappie trap net or gill net catch near 2.0/net; maintain a Bluegill trap net catch near 8.0/net and increase the Walleye gill net catch to 2.0/net. A targeted survey was conducted in June of 2023 primarily to evaluate Walleye management but also the status of the fish community using gill nets.

The 2023 survey evaluated a period where Walleye were stocked 11 times from 2003 through 2021. Fall fingerlings were generally stocked at 1 lb/littoral acre (54 lb) from 2003 to 2014 and 0.5 lb/littoral acre (27 lb) in the odd years beginning in 2017. Walleye were captured at a rate of 0.8/gill net. The catch was the lowest since 1990 and below what would be expected for lakes with similar habitats. Catches have been below the management goal of 2.0/gill net in six of seven surveys conducted since 1984. The five sampled fish ranged from 18.4 to 24.2 inches and averaged 3.0 lb. Sample sizes were too low to evaluate growth but was slow in previous investigations. No fish corresponding to the 2021 and 2019 stockings were sampled and only one from the 2017 stocking. Historically, most of the sampled Walleye have been associated with non-stocked year classes, which indicates natural reproduction and/or immigration has maintained the population. It appears stocking has not made a noticeable improvement to the fishery as the catches have remained very low.

The Black Crappie catch of 2.7/gill net exceeded the management goal of 2.4/net. Black Crappie gill and trap net catch rates have been variable in previous surveys, but typical of lakes with similar habitats in six of seven surveys. Size structure in 2023 was poor: only three fish longer than 8 inches were sampled and none longer than 10 inches. Slow growth and harvest may hinder size structure as only one Black Crappie over 12.0 inches has ever been sampled.

Northern Pike catches have been relatively stable, ranging from 5.2 to 7.3/gill net since 1984. The 2023 catch of 5.8/gill net was near the lake class 3rd quartile. The sampled fish ranged from 17.2 to 30.5 inches and had a mean length of 21.9 inches. Little Sturgeon Lake has shown the potential to produce some larger pike as fish over 28 inches were sampled in five of seven surveys. Anglers are encouraged to release larger pike to improve size quality. Age and growth information was not collected in 2023 because the survey was directed at Walleye management.

Yellow Perch catches ranged from a high of 15.0/net in 2002 to a low of 1.7/net in 2023. Though low compared to other lakes, the catch had been at or above the lake class median in all surveys prior to 2023. The declining trend has been observed since 2002. Yellow Perch are an important component of many fisheries, primarily as a prey species but often as a sportfish as well. The sampled fish ranged from 5.8 to 10.0 inches and had a mean length of

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

---

**Discussion (Continued)**

7.0 inches. Few Yellow Perch would be of a desirable size to anglers. The decline may be influencing the growth and survival of game species such as Walleye and Northern Pike.

The Tullibee catch rate of 0.3/gill net was the lowest observed in any survey and has declined each survey since 1995. Tullibee have ranged from 0.3 - 4.3/net in seven surveys dating back to 1984.

---

**LAKE SURVEY REPORT**  
**TARGETED SURVEY DATED 06/12/2023 FOR DOW NUMBER 69-1290-00**

---

## **Status Of The Fishery**

Little Sturgeon Lake is located approximately 14 miles northwest of Chisholm, MN and within the Little Fork River Watershed. The 247-acre lake has 54 littoral acres with a 22 foot maximum depth, and is moderately developed along the 3.6 mile shoreline. A public access is located on the north side of the Sturgeon River between Little Sturgeon and Side Lake with parking for five rigs. Little Sturgeon Lake is part of the larger Sturgeon Lake chain and outlets through the Sturgeon River. There are inlets from both Sturgeon and South Sturgeon Lakes. Little Sturgeon Lake has low fertility and very soft water, both of which limit fish production.

The 2017 Lake Management Plan (LMP) lists Black Crappie and Bluegill as primary species for management and Walleye as a secondary species. The LMP goals were to: maintain a Black Crappie trap net or gill net catch near 2.0/net; maintain a Bluegill trap net catch near 8.0/net and increase the Walleye gill net catch to 2.0/net. A targeted survey was conducted in June of 2023 primarily to evaluate Walleye management using gill nets.

Little Sturgeon Lake has a small Walleye population maintained by natural reproduction and/or immigration. The 2023 survey evaluated a period where Walleye were stocked 11 times from 2003 through 2021. Walleye were captured at a rate of 0.8/gill net. The catch was the lowest since 1990 and below what would be expected for lakes with similar habitats. Catch rates have been below the management goal of 2.0/gill net in six of seven surveys conducted since 1984. The five sampled fish ranged from 18.4 to 24.2 inches and averaged 3.0 pounds. Sample sizes were too low to evaluate growth but five age-classes ranging from 6 to 15 years old were identified. No fish corresponding to the 2021 and 2019 stockings were sampled and only one from the 2017 stocking. It appears stocking has not made a noticeable improvement to the fishery as the catches have remained very low.

The Black Crappie catch of 2.7/gill net exceeded the management goals of 2.4/net. Black Crappie gill and trap net catches have been variable in previous surveys, but typical of lakes with similar habitats. Size structure in 2023 was poor: only three fish longer than 8 inches were sampled and none over 10 inches. Slow growth and harvest may hinder size structure as only one Black Crappie over 12.0 inches has ever been sampled.

Bluegill are a management species but were not targeted in this survey. Generally, Bluegill trap net catch rates have been within the typical range for lakes with similar habitat. Management goals for numbers and size were met in the previous survey and appears to have improved over time.

Northern Pike catches have been relatively stable, ranging from 5.2 to 7.3/gill net since 1984. The 2023 catch of 5.8/gill net was near the upper limit of what would be typical of lakes with similar habitats. Size structure in 2023 was modest with one fish over 30 inches sampled, an average size of nearly 22 inches and 28 percent in the 22 - 26 inch range. Little Sturgeon has shown some potential to produce larger pike as fish over 28 inches have been sampled in five of seven surveys. Anglers are encouraged to release larger pike to improve size quality. Age and growth information was not collected in 2023 because the survey was directed at Walleye management.

The Yellow Perch numbers declined to an all-time low in survey history, 1.7/net. The last three surveys documented a declining trend in perch catches following the record high in 2002. Yellow Perch are an important component of many fisheries, primarily as a prey but often as a sportfish as well. Few Yellow Perch would be of a desirable size to anglers. The sampled fish ranged from 5.8 to 10.0 inches and averaged 7.0 inches. The decline may be influencing the growth and survival of game species such as Walleye and Northern Pike.

Tullibee are an important prey species for larger predators like Northern Pike and Walleye. In the last five surveys, the catch has declined from a high of 4.3/gill net to the low of 0.3/gill net in 2023. The two sampled fish were 10.3 and 12.2 inches long.

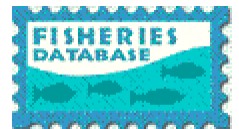
Anglers and boaters are reminded to help slow the spread of invasive species by removing all aquatic plants from boats, trailers and equipment. All drain plugs must be removed and live/bait wells drained before leaving the access. Anglers and boaters are also encouraged to power-wash and thoroughly dry all equipment prior to use in another water body.



## Approval Dates And Notices

Date Approved By Grand Rapids Area Fisheries Supervisor: 02/01/2024

Date Approved By Northeast Region Fisheries Manager: 03/15/2024



©Copyright 2024, 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.