

Lake Name: Poplar
DOW Number: 16-0239-00

Survey Type: Targeted Survey
Survey ID Date: 07/06/2020

TARGETED SURVEY
Gill Netting
Trap Netting
Water Level Measurement
Water Quality Measurement

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 3

DNR Sounding Map Number: B0092
Alternate Lake Class ID: N/A

Lake Location

Primary County: Cook

Nearest Town: Grand Marais

Legal Descriptions

Lake Center: Township - 64N Range - 1W Section - 7
PLS Section Lake Center: 6400107

All Legal Descriptions:

Cook County: Township - 64N Range - 1W Sections - 5, 6, 7, 8
 Township - 64N Range - 2W Sections - 1, 2, 11, 12

Area Office

Area Name: Grand Marais
Region Name: Northeast

ORG Code: F218
Region Number: 2

Lake Access

(Information based on Re-Survey dated 07/24/2006)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	US Forest Service	Open to Public use	Concrete	New concrete access at the west end of the lake is reached from a road the Gunflint Trail (Co. Rd. 12). Parking for many vehicles.
AC - 2	Private Property	Landowner's permission needed	Earthen	Accesses at various resorts.

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Lake Characteristics

Lake Area (planimetered acres):	728.00	GIS Shoreline Length (miles):	23.22
GIS Lake Area (acres):	764.00	Maximum Fetch (miles):	3.30
DOW Lake Area (acres):	950.00	Fetch Orientation (degrees):	315
Littoral Area (acres):	290.00	USGS Quad Map Number:	F27d
Area in MN (acres):	764.00	USGS Quad 24K GIS Index:	1154
Maximum Depth (feet):	73.0		
Mean Depth (feet):	N/A		

Watershed Characteristics

Major Watershed

Name: Lake Superior - North
Watershed Number: 1
Watershed size (acres): 1,015,865

Minor Watershed

Name: Poplar Cr
Watershed Number: 43
Watershed size (acres): 11,015

Surveys and Investigations

Initial Survey: 08/05/1948.

Re-Survey: 07/24/2006, 08/12/1991, 07/15/1980, 08/31/1955.

Population Assessment: 07/09/2012, 08/03/2009, 08/04/2003, 07/26/1999, 07/28/1997, 07/31/1995, 07/12/1993, 08/08/1988, 08/07/1987, 07/28/1986, 08/07/1984, 07/15/1982, 09/03/1981, 08/07/1979, 09/05/1978, 07/25/1977, 08/07/1972, 07/26/1971, 08/20/1969, 07/22/1963, 08/24/1959.

Special Assessment: 08/04/2008, 07/16/2007.

Standard Survey: 07/25/2016.

Targeted Survey: 07/06/2020, 06/16/2016.

Current Water Level

<u>Station ID</u>	<u>Date</u>	<u>Level</u>	<u>Reading (feet)</u>	<u>Reading Type</u>
BM - 3	07/06/2020	Low	-3.00	Above or below Benchmark

Notes: Benchmark readings at BM-1 and BM-3 are inconsistent with descriptions of water level at those sites. At BM-3 that may be due to discrepancies in the actual measurement location used. Both benchmarks should be re-checked in the next survey to determine, if possible, why these discrepancies exist, and how to correct them in the database.

Benchmark and Gauge Descriptions / Locations

<u>Station ID</u>	<u>Location Description</u>
BM - 3	20 yards east of public access- 10ft long x 6ft tall boulder- reading taken on the highest point of the second level of the south side of boulder (2006).

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Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	08/08/2006	Low	-3.70	Above or below Benchmark
	08/12/1991	Normal	-4.30	Above or below Benchmark
BM - 2	08/09/2006	Low	-5.00	Above or below Benchmark
BM - 3	07/06/2020	Low	-3.00	Above or below Benchmark
	07/25/2016	Normal	-4.86	Above or below Benchmark
	07/09/2012	Normal	-4.75	Above or below Benchmark
	07/31/2006	Low	-2.75	Above or below Benchmark
BM - 5	09/18/1979	N/A	-3.10	Above or below Benchmark
BM - 6	09/22/1977	High	-2.60	Above or below Benchmark
	10/19/1976	Low	-3.90	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	-4.30	08/12/1991	-3.70	08/08/2006	0.60	-4.00	Above or below Benchmark (2)
BM - 2	-5.00	08/09/2006	-5.00	08/09/2006	0.00	-5.00	Above or below Benchmark (1)
BM - 3	-4.86	07/25/2016	-2.75	07/31/2006	2.11	-3.84	Above or below Benchmark (4)
BM - 5	-3.10	09/18/1979	-3.10	09/18/1979	0.00	-3.10	Above or below Benchmark (1)
BM - 6	-3.90	10/19/1976	-2.60	09/22/1977	1.30	-3.25	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 - 2	07/06/2020	60.0	Surface	79.3	8.0
			3.0	79.0	7.9
			6.0	78.4	8.0
			9.0	77.0	8.4
			12.0	70.9	8.7
			13.0	67.8	9.0
			14.0	65.8	9.1
			15.0	62.2	8.9
			16.0	60.4	8.8
			17.0	59.7	8.6
			18.0	58.6	8.4
			19.0	57.9	8.4
			20.0	57.0	8.3
			23.0	54.9	7.7
			26.0	52.2	7.7
			29.0	48.6	7.7
			32.0	46.9	7.9
35.0	46.4	7.9			
40.0	45.0	7.7			
45.0	44.2	7.1			
50.0	43.5	6.1			
55.0	43.3	5.0			
57.0	43.2	4.5			

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Field Measurements of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
WQ - 2	07/06/2020	Surface	13.5	N/A	N/A	Brown	Bog-stain

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Net Catch Summary by Numbers for GSH

Standard gill nets, set shallow in stratified assessment

Number of Sets: 12
 First Set Date: 07/06/2020
 Last Lift Date: 07/10/2020
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 3*		
				25%	50%	75%
BLC	Black Crappie	3	0.25	N/A	N/A	N/A
BUB	Burbot	3	0.25	N/A	N/A	N/A
LKW	Lake Whitefish	15	1.25	N/A	N/A	N/A
NOP	Northern Pike	11	0.92	N/A	N/A	N/A
SMB	Smallmouth Bass	1	0.08	N/A	N/A	N/A
WAE	Walleye	10	0.83	N/A	N/A	N/A
WTS	White Sucker	27	2.25	N/A	N/A	N/A
Total Fish/Set:			5.83	* Quartiles for Number Per Set		

Net Catch Summary by Weight for GSH

Standard gill nets, set shallow in stratified assessment

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 3*		
					25%	50%	75%
BLC	Black Crappie	3.10	0.26	1.03	N/A	N/A	N/A
BUB	Burbot	2.28	0.19	0.76	N/A	N/A	N/A
LKW	Lake Whitefish	19.09	1.59	1.27	N/A	N/A	N/A
NOP	Northern Pike	16.31	1.36	1.48	N/A	N/A	N/A
SMB	Smallmouth Bass	2.66	0.22	2.66	N/A	N/A	N/A
WAE	Walleye	22.93	1.91	2.29	N/A	N/A	N/A
WTS	White Sucker	67.42	5.62	2.50	N/A	N/A	N/A
Total Pounds Fish/Set:			11.15	* Quartiles for Mean Weight			

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Net Catch Summary by Numbers for TN

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

Number of Sets: 12
 First Set Date: 07/06/2020
 Last Lift Date: 07/10/2020
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 3*		
				25%	50%	75%
BLC	Black Crappie	3	0.25	0.13	0.20	0.44
NOP	Northern Pike	14	1.17	N/A	N/A	N/A
SMB	Smallmouth Bass	3	0.25	0.14	0.61	1.26
WAE	Walleye	7	0.58	0.20	0.31	0.79
YEP	Yellow Perch	2	0.17	0.37	0.74	1.25
Total Fish/Set:			2.42	* 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 3*		
					25%	50%	75%
BLC	Black Crappie	1.28	0.11	0.43	0.35	0.69	1.13
NOP	Northern Pike	13.41	1.12	0.96	N/A	N/A	N/A
SMB	Smallmouth Bass	2.07	0.17	0.69	0.16	0.29	0.41
WAE	Walleye	4.99	0.42	0.71	0.50	0.82	1.46
YEP	Yellow Perch	0.14	0.01	0.07	0.13	0.20	0.40
Total Pounds Fish/Set:			1.82	* Quartiles for Mean Weight			

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Length Frequency Distribution for GSH

Standard gill nets, set shallow in stratified assessment

(Field work conducted between 07/06/2020 and 07/10/2020)

	<u>BLC</u>	<u>BUB</u>	<u>LKW</u>	<u>NOP</u>	<u>SMB</u>	<u>WAE</u>	<u>WTS</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	-	-	-	-	-	-	-
6.50 - 6.99	-	-	-	-	-	-	-
7.00 - 7.49	-	-	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-	-	-
8.00 - 8.49	-	-	2	-	-	-	-
8.50 - 8.99	-	-	1	-	-	-	1
9.00 - 9.49	-	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	-
10.00 - 10.49	-	-	-	-	-	-	-
10.50 - 10.99	-	-	-	-	-	-	-
11.00 - 11.49	1	-	-	-	-	-	-
11.50 - 11.99	-	1	-	-	-	-	-
12.00 - 12.99	1	-	-	-	-	-	-
13.00 - 13.99	1	-	3	1	-	2	1
14.00 - 14.99	-	1	1	-	-	1	-
15.00 - 15.99	-	-	-	-	-	2	2
16.00 - 16.99	-	1	2	2	1	3	2
17.00 - 17.99	-	-	1	2	-	1	5
18.00 - 18.99	-	-	5	-	-	-	7
19.00 - 19.99	-	-	-	1	-	-	5
20.00 - 20.99	-	-	-	2	-	-	4
21.00 - 21.99	-	-	-	2	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	1	-	-	-
24.00 - 24.99	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	1	-
32.00 - 32.99	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-

	<u>BLC</u>	<u>BUB</u>	<u>LKW</u>	<u>NOP</u>	<u>SMB</u>	<u>WAE</u>	<u>WTS</u>
Total	3	3	15	11	1	10	27
Min. Length	11.18	11.97	8.19	13.90	16.89	13.78	8.54
Max. Length	13.15	16.50	18.50	23.23	16.89	31.61	20.59
Mean Length	12.11	14.44	14.77	18.89	16.89	17.15	17.79
# Measured	3	3	15	11	1	10	27
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 07/06/2020 FOR DOW NUMBER 16-0239-00

Length Frequency Distribution for TN

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

(Field work conducted between 07/06/2020 and 07/10/2020)

	<u>BLC</u>	<u>NOP</u>	<u>SMB</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	-	-	-	-	1
5.50 - 5.99	2	-	-	-	1
6.00 - 6.49	-	-	1	-	-
6.50 - 6.99	-	-	1	-	-
7.00 - 7.49	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-
8.00 - 8.49	-	-	-	-	-
8.50 - 8.99	-	-	-	-	-
9.00 - 9.49	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-
10.00 - 10.49	-	-	-	1	-
10.50 - 10.99	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-
11.50 - 11.99	-	-	-	2	-
12.00 - 12.99	1	2	-	3	-
13.00 - 13.99	-	1	-	-	-
14.00 - 14.99	-	1	1	-	-
15.00 - 15.99	-	1	-	-	-
16.00 - 16.99	-	3	-	-	-
17.00 - 17.99	-	3	-	1	-
18.00 - 18.99	-	-	-	-	-
19.00 - 19.99	-	2	-	-	-
20.00 - 20.99	-	1	-	-	-
21.00 - 21.99	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-
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>BLC</u>	<u>NOP</u>	<u>SMB</u>	<u>WAE</u>	<u>YEP</u>
Total	3	14	3	7	2
Min. Length	5.51	12.01	6.10	10.39	5.00
Max. Length	12.44	20.12	14.96	17.17	5.75
Mean Length	7.85	16.34	9.32	12.72	5.37
# Measured	3	14	3	7	2
No Lengths for	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 07/06/2020 FOR DOW NUMBER 16-0239-00

Length At Capture with Last Incremental Length

(Body-Scale constant, all lengths, and all length increments in inches)

Species: Walleye

Body-Scale Constant: 1.10

Total Sample Size: 17

Length at Capture in 2020 for Each Age Class, with Incremental Lengths for 2020

Year Class	Age	Sample Size	Length At Capture			Standard Error	Length Increments	
			Average Length	Maximum Length	Minimum Length		Increment	Standard Error
2018	2	1	10.39	10.39	10.39	N/A	1.59	N/A
2017	3	4	12.17	12.60	11.73	0.210	1.18	0.182
2016	4	2	13.33	13.82	12.83	0.492	1.34	0.468
2015	5	4	15.35	16.18	14.76	0.299	0.80	0.089
2014	6	0	-	-	-	-	-	-
2013	7	5	16.36	17.91	13.78	0.710	0.50	0.108
2012	8	0	-	-	-	-	-	-
2011	9	0	-	-	-	-	-	-
2010	10	0	-	-	-	-	-	-
2009	11	0	-	-	-	-	-	-
2008	12	0	-	-	-	-	-	-
2007	13	0	-	-	-	-	-	-
2006	14	0	-	-	-	-	-	-
2005	15	1	31.61	31.61	31.61	N/A	0.48	N/A

LAKE SURVEY REPORT
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Back-Calculated Lengths for Each Age Class and Average Annual Increments of Back-Calculated Lengths

Species: Walleye

Gear Type: Combined Gear Types (GSH and TN)

Class	Age	N	1	2	3	4	5	6	7	8	9	10	11	12
2018	2	1	4.90	8.80	-	-	-	-	-	-	-	-	-	-
			4.90	3.90	-	-	-	-	-	-	-	-	-	-
2017	3	4	4.39	7.66	10.99	-	-	-	-	-	-	-	-	-
			4.39	3.27	3.33	-	-	-	-	-	-	-	-	-
2016	4	2	4.08	7.08	9.80	11.99	-	-	-	-	-	-	-	-
			4.08	3.01	2.72	2.19	-	-	-	-	-	-	-	-
2015	5	4	3.89	7.42	10.12	12.51	14.55	-	-	-	-	-	-	-
			3.89	3.53	2.70	2.39	2.05	-	-	-	-	-	-	-
2013	7	5	4.07	6.44	9.35	11.99	13.64	14.98	15.86	-	-	-	-	-
			4.07	2.38	2.91	2.64	1.65	1.33	0.88	-	-	-	-	-
2005	15	1	6.81	12.25	15.75	19.90	22.58	24.40	26.43	26.95	28.24	28.85	29.41	30.06
			6.81	5.44	3.50	4.15	2.68	1.82	2.03	0.52	1.29	0.61	0.56	0.65
Mean Length			4.31	7.51	10.41	12.82	14.90	16.55	17.62	26.95	28.24	28.85	29.41	30.06
Mean Increment			4.31	3.20	2.98	2.60	1.91	1.42	1.08	0.52	1.29	0.61	0.56	0.65
Total N			17	17	16	12	10	6	6	1	1	1	1	1

(Continued from above table)

Class	Age	N	13	14	15
2005	15	1	30.53	30.83	31.14
			0.47	0.30	0.31
Mean Length			30.53	30.83	31.14
Mean Increment			0.47	0.30	0.31
Total N			1	1	1

LAKE SURVEY REPORT
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Age Class Frequency Distribution

Species & SS Type (1)	Number of Fish (2)			Number of Fish in Year Class ('yy) and Age Class															
	Aged	Keyed	Unaged	'20 0	'19 1	'18 2	'17 3	'16 4	'15 5	'14 6	'13 7	'12 8	'11 9	'10 10	'09 11	'08 12	'07 13	'06 14	<'06 15+
Walleye																			
GSH	10	0	0	0	0	0	0	1	4	0	4	0	0	0	0	0	0	0	1
TN	7	0	0	0	0	1	4	1	0	0	1	0	0	0	0	0	0	0	0
Totals:	17	0	0	0	0	1	4	2	4	0	5	0	0	0	0	0	0	0	1

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

GSH = Standard gill nets, set shallow in stratified assessment
 TN = Standard 3/4-in mesh, double frame trap 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
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Survey Crew Notes

Walleye population assessment

Field Notes - General Field

Recent stocking of Poplar Lake:

Year - Species - Strain - Size - Number - Pounds - Clip

2019 - Walleye (WAE) - PR - Fgl - 20,250 - 578.6
2017 - WAE - PR - Fgl - 11,603 - 580.2
2015 - WAE - PR - Fgl - 10,428 - 579.3
2013 - WAE - PR - Fgl - 16,351 - 578.4
2011 - WAE - PR - Fgl - 10,138 - 580.0
2008 - WAE - PR - Fgl - 14,404 - 232.5
2007 - WAE - PR - Fry - 300,000 - 3.0
2006 - WAE - SLR - Fry - 300,000 - 3.0
2005 - Lake Trout (LAT) - MTN - Yrl - 3,598 - 313.2 - LR
2005 - LAT - GIL - Yrl - 3,621 - 362.9 - RR
2003 - WAE - SLR - Fgl - 10,776 - 305.2
2003 - LAT - GIL - Yrl - 7,407 - 720.2
2001 - WAE - SLR - Fry - 300,000 - ND
1999 - LAT - GIL - Yrl - 5,540 - 454.1

Poplar Lake has been regularly stocked with walleye at various life stages since at least 1926.

Discussion

Poplar Lake is a medium-sized lake in the heart of the Gunflint Trail resort community, about 30 road miles from Grand Marais. It is one of the most heavily developed lakes in Cook County, hosting a good public access, at least five resorts, and about 100 homes and cabins. As a result, interest in and use of fisheries in this lake has been high.

The current (2011) lake management plan for Poplar Lake lists walleye and northern pike as primary and secondary management species, but the lake also supports a smallmouth bass fishery, and a rare (for this area), and very small, black crappie fishery. The main objective in the 2011 LMP was to increase walleye abundance to reach a walleye gill net catch goal of 3.0 fish/set, with some fish over 20 inches present.. Toward that end, the lake has been stocked with walleye fingerlings every odd-numbered year since 2011. To determine whether that goal could be reached by stocking alone, surveys were planned for 2012, 2016, and 2020. Surveys were completed as planned in 2012 and 2016. Due to a staff shortage and Covid-19 pandemic restrictions, the 2020 survey was reduced to a targeted survey, using trap nets and shallow gill net sets to mainly target the walleye population.

The 2020 walleye catch in shallow gill net sets was the second lowest seen in Poplar Lake since that net type came into use in 1993 (Table 1). Had our full suite of deep and shallow sets been used in 2020, there's no doubt the total walleye catch would have fallen well short of the goal in the 2011 plan, since we usually catch few, if any, walleye in the deep sets. Some walleye were also sampled in 0.75-in-mesh trap nets in 2020; that catch was similar to historic catches in that gear (Table 3). Walleye taken in 2020, in all sampling gears, ranged in length from 10.4 to 31.6 inches, with all but one under 18 inches. Years in which recent fingerling stocking had been done (2017, 2015, and 2013) accounted for all but two of the walleye sampled (88% of the total catch), but none of those year classes appeared to have been strong. Only one sampled fish was clearly from an unstocked year (2018), suggesting natural reproduction remained very low.

Surveys in 2012-2020 have provided no evidence that the current walleye stocking program has increased walleye abundance to the goal level in Poplar Lake. In fact, no increase at all has been evident (Table 1). However, it does appear that without stocking, there would have been even fewer walleye found, since most walleye taken have come from stocked year classes. Every walleye stocking strategy reasonably available has been tried in Poplar Lake since 1980, and none have increased walleye numbers. A different approach (probably regulatory) may be needed to

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Discussion (*Continued*)

increase walleye abundance, if such an increase is even possible.

Catches of other fish species in shallow gill net sets and in 0.75-in trap nets in 2020 were similar to catches observed in this lake historically (Tables 1-3). The lake supported fair numbers of small-to-medium sized northern pike, some smallmouth bass, and a few larger black crappie. Catches of yellow perch, usually a critically important forage species for walleye and northern pike, were very low; however, that was also not unusual for this lake.

LAKE SURVEY REPORT
TARGETED SURVEY DATED 07/06/2020 FOR DOW NUMBER 16-0239-00

Status Of The Fishery

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Anglers strictly targeting walleye may have some tough fishing in Poplar Lake. However, those willing to take a mixed bag can have some good outings. In addition to walleye, northern pike, smallmouth bass, and a few black crappie, the lakes provides a good lake whitefish population and a few burbot for those that want to try for something different.

Survey Attachments

Note: The following attachment is excluded from this report:

(1) Poplar GSH historic catch tables.pdf

Approval Dates And Notices

Date Approved By Grand Marais Area Fisheries Supervisor: 03/08/2021

Date Approved By Northeast Region Fisheries Manager: _____



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Lake Survey Report revision: 20210209-RJE. Data Date: 03/08/2021 at 3:51 pm .

Table 1. Number of fish per set, and mean weight (pounds/fish) for Northern Pike, Yellow Perch, Walleye, and Smallmouth Bass taken in shallow graduated-mesh gill net sets (GSH) in surveys of Poplar Lake, Cook County, Minnesota, 1993-2020.

Survey Date	No. Sets	Northern Pike		Yellow Perch		Walleye		Smallmouth Bass	
		Number	Weight	Number	Weight	Number	Weight	Number	Weight
7/12/93	8	0.50	1.30	0.63	0.20	0.88	0.90	0.25	0.90
7/31/95	8	1.88	2.15			0.88	1.28	0.50	1.16
7/28/97	8	1.50	2.70	0.25		0.13			
7/26/99	7	1.86	1.61	0.57	0.08	1.14	0.49	0.13	
8/4/03	8	1.25	1.03			1.75	0.75	0.13	
7/24/06	8	1.13	1.26	0.50	0.14	0.75	1.23	0.25	
8/3/09	10	1.50	1.33	1.10	0.11	1.00	1.10	0.10	
7/9/12	11	1.45	1.23	0.18		0.27	1.00		
7/25/16	10	1.20	1.47	0.40	0.13	1.00	1.46	0.10	
7/6/20	12	0.92	1.48			0.83	2.29	0.08	
Class 3 GSH									
Median ¹		1.16	2.72	1.10	0.10	1.67	1.33	0.67	1.04
1 st Q		0.56	1.50	0.54	0.09	0.84	1.08	0.25	0.79
3 rd Q		1.50	3.63	2.42	0.14	2.35	1.72	1.25	1.41
N ²		26		27		28		27	

¹ Grand Marais-area surveys using shallow gill net sets (GSH) in Class 3 lakes; data through 2019.

² Number of surveys in which the listed species was taken in GSH gear in a Class 3 lake (among 53 total surveys using GSH gear in Class 3 lakes).

Table 2. Number of fish per set, and mean weight (pounds/fish) for Lake Whitefish, Burbot, Black Crappie, and White Sucker taken in shallow graduated-mesh gill net sets (GSH) in surveys of Poplar Lake, Cook County, Minnesota, 1993-2020.

Survey Date	No. Sets	Lake Whitefish		Burbot		Black Crappie		White Sucker	
		Number	Weight	Number	Weight	Number	Weight	Number	Weight
7/12/93	8	1.38	1.10					2.13	2.40
7/31/95	8	0.88	1.41	0.13				1.63	2.19
7/28/97	8	1.13	1.54					1.50	2.70
7/26/99	7	1.29	0.84			0.14		2.57	1.80
8/4/03	8	0.88	1.45	0.50	1.34			3.00	2.24
7/24/06	8	0.25						1.00	2.54
8/3/09	10	0.60	1.53			0.20		3.30	2.11
7/9/12	11	1.45	0.49	0.18		0.18		2.82	1.91
7/25/16	10	0.60	0.96	0.30	0.43			1.60	2.12
7/6/20	12	1.25	1.27	0.25	0.76	0.25	1.03	2.25	2.50

Table 3. Number of fish per set, and mean weight (pounds/fish) for Black Crappie, Yellow Perch, Walleye, and Smallmouth Bass taken in 0.75-inch-mesh trap nets in surveys of Poplar Lake, Cook County, Minnesota, 1971-2020.

Survey Date	No. Sets	Black Crappie		Yellow Perch		Walleye		Smallmouth Bass	
		Number	Weight	Number	Weight	Number	Weight	Number	Weight
7/29/71	12					0.33	1.35		
8/8/72	6					1.17	0.90		
9/3/81	7	0.14		0.14		0.29		0.14	
8/8/84	12					0.33		0.17	
8/12/88	20			0.15	0.13	0.80	0.64	0.20	0.17
8/16/91	20	0.55	0.63	0.30	0.13	0.50	0.79	0.20	0.25
7/12/93	12	0.17		0.17		0.08		0.17	
7/31/95	12	0.08		0.08		0.92	0.82		
7/24/06	16	0.81	0.27	0.19	0.33	0.50	0.72	0.13	
7/9/12	12	0.75	0.14	0.08		0.50	0.67	0.17	
7/25/16	12	0.08		0.08		0.17		0.25	1.91
7/6/20	12	0.25	0.43	0.17		0.58	0.71	0.25	0.69
Class 3									
Medians ¹		0.20	0.69	0.74	0.20	0.31	0.82	0.61	0.29
1 st Q		0.13	0.35	0.37	0.13	0.20	0.50	0.14	0.16
3 rd Q		0.44	1.13	1.25	0.40	0.79	1.46	1.26	0.41

¹ Statewide data through 1996.