



Heron Resting on a Trapnet in Goose Lake, September 2017

Fish Survey of Goose Lake (ID #62-0034), Ramsey County, Minnesota in 2017

Survey Dates: September 6-8, 2017

MnDNR Permit Number: 23281

DRAFT

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VLAWMO and MnDNR



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Comparison of 1986, 2012, and 2017 Fish Surveys

The first recorded Goose Lake fish survey occurred in 1986. The 1986 results indicated a sparse fishery with moderate numbers of black bullheads and only two other species in low numbers (brown bullheads and white suckers)(Table 1). It is likely that winterkill was a frequent occurrence and limited fish. In 2012, fish were more abundant, especially in the East Goose basin (Table 1). Black bullheads had a high density and may have been adversely impacting water quality. The VLAWMO sponsored bullhead removal by commercial fishermen and bullhead numbers were reduced based on the 2017 survey results. They are not likely to be impacting water quality at this time. Also in 2017, black crappies had a very high density and bluegill sunfish, yellow perch, and largemouth bass decreased.

Table 1. Three fish surveys have been conducted on Goose Lake since 1986. The first survey was conducted on June 30, 1986 by the Minnesota Department of Natural Resources (MnDNR). The second fish survey was conducted on July 17-18, 2012 Blue Water Science (BWS). The third survey was conducted on September 7-8, 2017 by BWS.

	1986 Goose Fish/Net MnDNR	2012 West Goose Fish/Net (n=3) BWS	2012 East Goose Fish/Net (n=8) BWS	2012 Goose Fish/Net (n=11) BWS	2017 West Goose Fish/Net (n=4) BWS	2017 East Goose Fish/Net (n=8) BWS	2017 Goose Fish/Net (n=12) BWS	Typical Range (MnDNR)
Black bullhead	48	14	105	80	17	24	22	11.5 - 132.6
Black crappies	--	3.0	44	33	12	219	150	2.4 - 15.1
Bluegills	--	68	154	131	44	21	28	1.9 - 29.5
Brown bullhead	0.4	--	--	--				0.4 - 4.5
Golden shiner	--	1.3	--	0.4	6.8	0.5	2.6	0.2 - 1.1
Green sunfish	--	0.3	1.3	0.7	0.5		0.2	0.2 - 1.9
Hybrid sunfish	--	1.0	0.9	0.9	1.8	0.6	1.0	NA
Largemouth bass	--	1.7	21	16		1.0	0.7	0.3 - 1.2
Pumpkinseed	--	2.3	12	10	2.5	1.0	1.5	0.8 - 8.4
White sucker	0.4	--	0.1	0.1				0.3 - 2.6
Yellow bullhead					0.3		0.1	NA
Yellow perch	--	0.3	55	40	1.0	0.1	0.4	0.3 - 3.8
Painted turtle	--	16	0.4	4.5	1.5	0.4	0.9	--
Snapping turtle	--	3.7	--	1.0	0.8	0.1	0.3	--
Softshell turtle	--	--	0.3	0.2				--
Number of fish species	3		10			10		
TOTAL FISH	49	92	393	312	85	267	206	--



[left] Map of trapnet sets in 2017. [right] Fish from a single trapnet in 2017.

Overview

The trapnet survey in 2012 found the largemouth bass population had a high density and a size range from 6.5 to 16 inches indicating that several year classes of fish species were surviving over winter. Bluegills, yellow perch, and largemouth bass abundance (as fish/net) were above the typical MnDNR range for a lake like Goose. However bullheads were also abundant in 2012.

The fish community changed based on findings from the 2017 survey. It appears commercial fishing successfully reduced bullhead densities. In somewhat of a surprise, black crappie numbers increased dramatically while largemouth bass, bluegill, and yellow perch numbers decreased. Black crappies are now the top predator in Goose Lake. Largemouth bass are present and within a range typical for these types of shallow lakes.

No additional fish management is needed at this time but another survey in a few years would be informative.



[left] Bluegill sunfish and black crappie were both present in Goose Lake. Black crappies were the most abundant fish sampled in 2017.

[right] Largemouth bass catch rate was lower in 2017 compared to 2012.