



LAKE SURVEY REPORT

Lake Name: Great Northern
DOW Number: 73-0083-00

Survey Type: Targeted Survey
Survey ID Date: 10/14/2015

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 42
DNR Sounding Map Number: C0783
Alternate Lake Class ID: N/A

Lake Location

Primary County: Stearns
Nearest Town: Cold Spring

Legal Descriptions

Lake Center: Township - 123N Range - 30W Section - 29
PLS Section Lake Center: 12303029

All Legal Descriptions:

Stearns County: Township - 123N Range - 30W Sections - 20, 21, 28, 29

Area Office

Area Name: Sauk Rapids
Region Name: Central
ORG Code: F315
Region Number: 3

Lake Access

(Information based on Population Assessment dated 07/31/2013)

Table with 5 columns: Station ID, Ownership, Public Use, Type, Location / Comments

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

Lake Characteristics

Lake Area (planimetered acres): 356.00
GIS Lake Area (acres): 195.90
DOW Lake Area (acres): 213.00
Littoral Area (acres): 185.35
Area in MN (acres): 195.90
Maximum Depth (feet): 16.2
Mean Depth (feet): 6.1
GIS Shoreline Length (miles): 6.03
Maximum Fetch (miles): 0.96
Fetch Orientation (degrees): 67
USGS Quad Map Number: Q12b
USGS Quad 24K GIS Index: 3223

Watershed Characteristics

Major Watershed

Name: Sauk River
Watershed Number: 16
Watershed size (acres): 666,747

Minor Watershed

Name: Sauk River
Watershed Number: 16
Watershed size (acres): 11,893

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**Surveys and Investigations**

**Re-Survey:** 08/06/2003, 08/15/1990, 08/14/1980.

**Population Assessment:** 07/31/2013, 08/14/1995, 08/06/1985.

**Special Assessment:** 10/11/2011, 10/02/2002.

**Targeted Survey:** 10/14/2015.

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**Natural Reproduction Catch Summary for EW**

**Fall electrofishing for Walleye**

**Total run-time for all stations:** 01:43:00  
**Total on-time for all stations:** 01:16:34  
**First Sampling Date:** 10/14/2015  
**Last Sampling Date:** 10/14/2015  
**Daylight Sampling:** No  
**Target Species:** Young of the year Walleye

Abbr	Species	Age	Total Number	Number Measured	Mean Length (inches)	Length Range (inches)		Catch Rates (number per hour)	
						Min	Max	Run-Time	On-Time
CCF	Channel Catfish	YOY	1	1	3.82	3.82	3.82	0.58	0.78
WAE	Walleye	YOY	67	67	7.20	5.75	8.15	39.03	52.50
WAE	Walleye	≥ 1	111	111	10.81	8.27	16.30	64.66	86.98

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**Length Frequency Distribution for EW (for fish < 16.00 inches)**

**Fall electrofishing for Walleye**

(Field work conducted on 10/14/2015)

	<u>YCCF</u>	<u>WAE</u>	<u>YWAE</u>
< 0.50	-	-	-
0.50 - 0.99	-	-	-
1.00 - 1.49	-	-	-
1.50 - 1.99	-	-	-
2.00 - 2.49	-	-	-
2.50 - 2.99	-	-	-
3.00 - 3.49	-	-	-
3.50 - 3.99	1	-	-
4.00 - 4.49	-	-	-
4.50 - 4.99	-	-	-
5.00 - 5.49	-	-	-
5.50 - 5.99	-	-	2
6.00 - 6.49	-	-	7
6.50 - 6.99	-	-	9
7.00 - 7.49	-	-	29
7.50 - 7.99	-	-	18
8.00 - 8.49	-	6	2
8.50 - 8.99	-	6	-
9.00 - 9.49	-	6	-
9.50 - 9.99	-	8	-
10.00 - 10.49	-	17	-
10.50 - 10.99	-	21	-
11.00 - 11.49	-	20	-
11.50 - 11.99	-	14	-
12.00 - 12.49	-	4	-
12.50 - 12.99	-	4	-
13.00 - 13.49	-	1	-
13.50 - 13.99	-	-	-
14.00 - 14.49	-	1	-
14.50 - 14.99	-	1	-
15.00 - 15.49	-	-	-
15.50 - 15.99	-	-	-
= > 16.00	-	2	-

	<u>YCCF</u>	<u>WAE</u>	<u>YWAE</u>
Total	1	111	67
Min. Length	3.82	8.27	5.75
Max. Length	3.82	16.30	8.15
Mean Length	3.82	10.81	7.20
# Measured	1	111	67
No Lengths for	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.

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**Length Frequency Distribution for EW (for fish  $\geq$  16.00 inches)**

**Fall electrofishing for Walleye**

(Field work conducted on 10/14/2015)

	<u>YCCF</u>	<u>WAE</u>	<u>YWAE</u>
< 16.00	1	109	67
16.00 - 16.49	-	2	-
16.50 - 16.99	-	-	-
17.00 - 17.49	-	-	-
17.50 - 17.99	-	-	-
18.00 - 18.49	-	-	-
18.50 - 18.99	-	-	-
19.00 - 19.49	-	-	-
19.50 - 19.99	-	-	-
20.00 - 20.49	-	-	-
20.50 - 20.99	-	-	-
21.00 - 21.49	-	-	-
21.50 - 21.99	-	-	-
22.00 - 22.49	-	-	-
22.50 - 22.99	-	-	-
23.00 - 23.49	-	-	-
23.50 - 23.99	-	-	-
24.00 - 24.49	-	-	-
24.50 - 24.99	-	-	-
25.00 - 25.49	-	-	-
25.50 - 25.99	-	-	-
26.00 - 26.49	-	-	-
26.50 - 26.99	-	-	-
27.00 - 27.49	-	-	-
27.50 - 27.99	-	-	-
28.00 - 28.49	-	-	-
28.50 - 28.99	-	-	-
29.00 - 29.49	-	-	-
29.50 - 29.99	-	-	-
30.00 - 30.49	-	-	-
30.50 - 30.99	-	-	-
31.00 - 31.49	-	-	-
31.50 - 31.99	-	-	-
32.00 - 32.49	-	-	-
32.50 - 32.99	-	-	-
33.00 - 33.49	-	-	-
33.50 - 33.99	-	-	-
34.00 - 34.49	-	-	-
34.50 - 34.99	-	-	-
35.00 - 35.49	-	-	-
35.50 - 35.99	-	-	-
= > 36.00	-	-	-

	<u>YCCF</u>	<u>WAE</u>	<u>YWAE</u>
Total	1	111	67
Min. Length	3.82	8.27	5.75
Max. Length	3.82	16.30	8.15
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## **Survey Crew Notes**

Fall electrofishing for YOY Walleye.

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## **Discussion**

The Sauk River Chain of Lakes (SRCL) is located in south central Minnesota, near the city of Richmond. A dam on the Sauk River at Cold Spring allows users to access over 3,200 acres by water. The SRCL fishery is primarily managed for Walleye, Muskellunge, and Channel Catfish, although it is also a popular destination for panfish, Largemouth Bass, and Northern Pike anglers. Horseshoe and Cedar Island Lakes are the two largest basins in the SRCL comprising 50% of the total surface area of the Chain. Prior to 2001 the Walleye population was sustained thru fingerling stocking.

Since 2001, Horseshoe and Cedar Island Lakes have been stocked with Walleye fry every other year. Based on fall electrofishing fry survival has been excellent averaging 144 YOY/hour on Horseshoe and 108 YOY/hour on Cedar Island from 2001 - 2015.

The Lake Association has always asked that the DNR stock the lakes east of CR 71; however the DNR contested that fry stocked into Horseshoe and Cedar Island would disperse to the lakes east of CR 71. Stocking permits were issued to the SRCL Lake Association to privately stock Walleye fry into the lakes east of CR 71 in 2000 (180,000), 2002 (180,000), 2003 (333,333), 2005 (360,000), 2007 (1,000,000), and 2009 (500,000). After 2009, the DNR asked the Lake Association to not stock Walleye fry East of Hwy 71 in order to confirm that Walleye fry stocked into Horseshoe and Cedar Island do in fact disperse throughout the chain of lakes and in to the lakes east of Hwy 71. Electrofishing was conducted in portions of Schneider, Great Northern, Krays, and Knaus Lakes. Walleye fingerlings were sampled at all of the sites with an overall catch rate of 58.0/hour which was less than the rate observed in 2011 (233.0/hour) a year that saw record high fingerling catch rates in Horseshoe and Cedar Island Lakes as well.

Although fingerling catch rates were down throughout the SRCL from previous years, yearling (age 1) Walleye catch rates were significant on Cedar Island (57.4/hour) and Horseshoe (116.7/hour) Lakes, as well as portions of Schneider, Great Northern, Krays, and Knaus Lakes (36.8/hour).. Considering there is no record of DNR or private stocking in 2014 these yearling Walleye are apparently from natural reproduction which has not been found in significant numbers since bi-annual fall electrofishing began in 2001.

Studies have shown that native strains have the potential to survive better in a given watershed or region than non-native strains. In an attempt to determine if these naturally reproduced Walleye were a separate genetic strain from the Mississippi River strain, which have been stocked by the DNR in the past, scale samples from these yearlings were taken and submitted to the University of Minnesota for genetic analysis. Annual fall electrofishing will be conducted for the next five years to try to determine the extent of natural reproduction in the SRCL in both stocked and non-stocked years.

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## **Status of the Fishery**

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**Approval Dates and Notices**

Date Approved by Sauk Rapids Area Fisheries Supervisor: \_\_\_\_\_

Date Approved by Central Region Fisheries Manager: \_\_\_\_\_



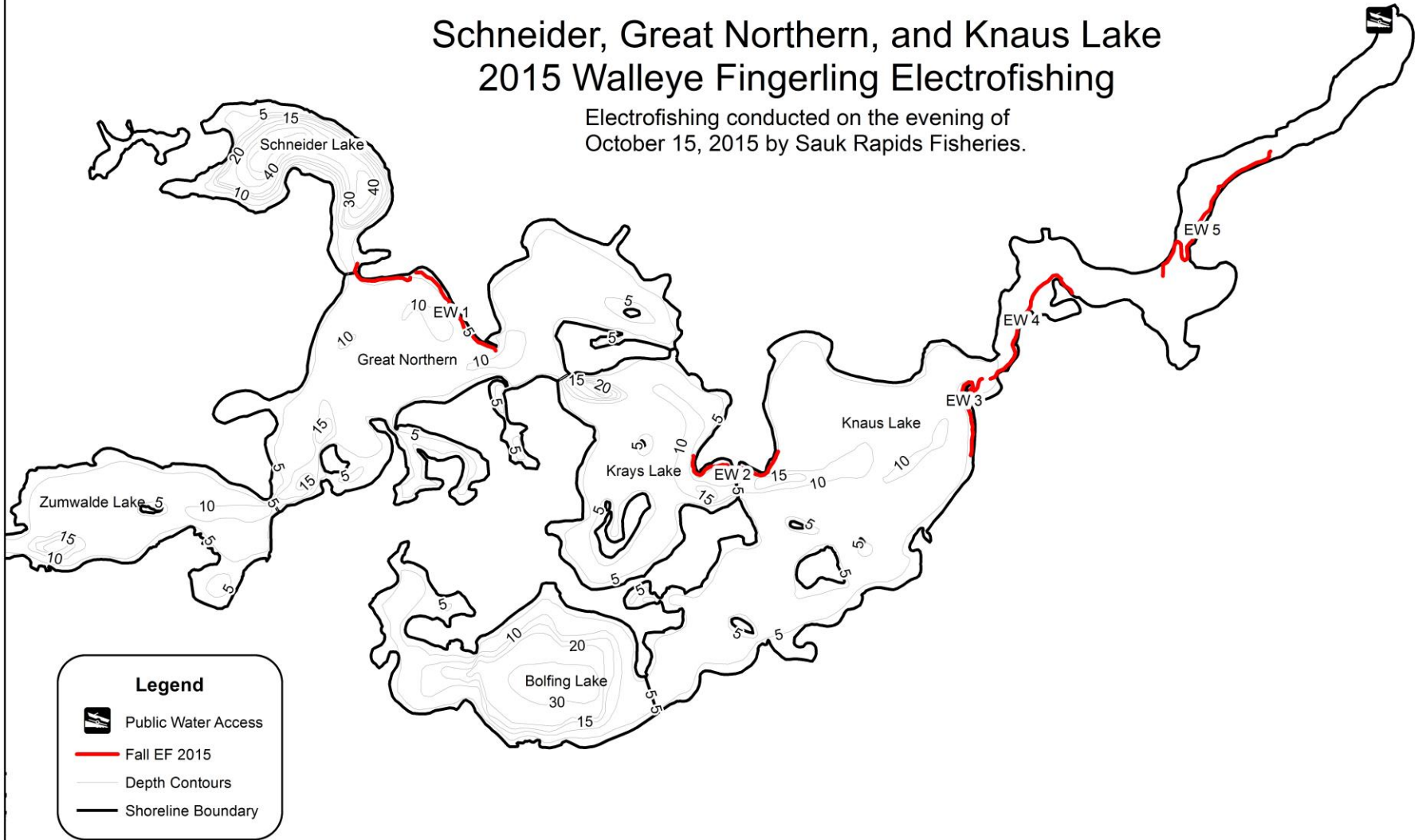
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# Schneider, Great Northern, and Knaus Lake 2015 Walleye Fingerling Electrofishing

Electrofishing conducted on the evening of  
October 15, 2015 by Sauk Rapids Fisheries.



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