



Minnesota Department of Natural Resources
 Fisheries Management
 STANDARD LAKE SURVEY REPORT



Lake Name: Lower Sakatah
 DOW Number: 66-0044-00

Survey Type: Special Assessment
 Survey ID Date: 10/19/2006

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID: 43

DNR Sounding Map Number: N/A
 Alternate Lake Class ID: 43

Lake Location

Primary County: Rice

Nearest Town: Mankato

Legal Descriptions

Lake Center: Township - 109N Range - 22W Section - 20
 PLS Section Lake Center: 3177

All Legal Descriptions:

Rice County: Township - 109N Range - 22W Sections - 17, 19, 20

Area Office

Area Name: Waterville
 Region Name: Southern

ORG Code: F417
 Region Number: 4

Lake Access

(Information based on Initial Survey dated 09/02/1986)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	Unknown		Other	Can access from bridge between Upper and Lower Sakatah. Or use access on Upper Sakatah. NONE.

Lake Characteristics

Lake Area (planimetered acres): 310.00
 GIS Lake Area (acres): 372.20
 DOW Lake Area (acres): 341.00
 Littoral Area (acres): 310.00
 Area in MN (acres): 372.20
 Maximum Depth (feet): 7.0
 Mean Depth (feet): N/A

GIS Shoreline Length (miles): 6.05
 Maximum Fetch (miles): 3.00
 Fetch Orientation (degrees): N/A
 USGS Quad Map Number: V15a
 USGS Quad 24K GIS Index: 4230

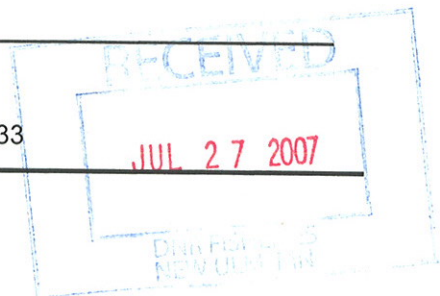
Watershed Characteristics

Major Watershed

Name: Cannon River
 Watershed Number: 39
 Watershed size (acres): 941,122

Minor Watershed

Name: Lower Sakatah L
 Watershed Number: 94
 Watershed size (acres): 5,133



STANDARD LAKE SURVEY REPORT
SPECIAL ASSESSMENT DATED 10/19/2006 FOR DOW NUMBER 66-0044-00

Surveys And Investigations

Initial Survey: 09/02/1986.
Re-Survey: 08/04/2004, 08/16/1999, 08/03/1994, 08/14/1989.
Population Assessment: 08/07/1968.
Special Assessment: 10/19/2006, 11/02/2005, 09/29/2004, 05/25/2004, 10/13/2003, 10/25/2002,
10/18/2001, 10/12/2000, 10/06/1999, 10/26/1998, 10/15/1997, 10/16/1996,
10/11/1995, 10/24/1994, 10/06/1993, 10/23/1992, 10/01/1991, 10/18/1990,
10/19/1989, 10/05/1988, 08/02/1983, 05/13/1954.



Minnesota Department of Natural Resources

Fisheries Management

STANDARD LAKE SURVEY REPORT



Lake Name: Lower Sakatah
DOW Number: 66-0044-00

Survey Type: Special Assessment
Survey ID Date: 10/19/2006

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID: 43

DNR Sounding Map Number: N/A
 Alternate Lake Class ID: 43

Lake Location

Primary County: Rice

Nearest Town: Mankato

Legal Descriptions

Lake Center: Township - 109N Range - 22W Section - 20
 PLS Section Lake Center: 3177

All Legal Descriptions:

Rice County: Township - 109N Range - 22W Sections - 17, 19, 20

Area Office

Area Name: Waterville
 Region Name: Southern

ORG Code: F417
 Region Number: 4

Lake Access

(Information based on Initial Survey dated 09/02/1986)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	Unknown		Other	Can access from bridge between Upper and Lower Sakatah. Or use access on Upper Sakatah. NONE.

Lake Characteristics

Lake Area (planimetered acres): 310.00	GIS Shoreline Length (miles): 6.05
GIS Lake Area (acres): 372.20	Maximum Fetch (miles): 3.00
DOW Lake Area (acres): 341.00	Fetch Orientation (degrees): N/A
Littoral Area (acres): 310.00	USGS Quad Map Number: V15a
Area in MN (acres): 372.20	USGS Quad 24K GIS Index: 4230
Maximum Depth (feet): 7.0	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Cannon River
 Watershed Number: 39
 Watershed size (acres): 941,122

Minor Watershed

Name: Lower Sakatah L
 Watershed Number: 94
 Watershed size (acres): 5,133

STANDARD LAKE SURVEY REPORT
SPECIAL ASSESSMENT DATED 10/19/2006 FOR DOW NUMBER 66-0044-00

Surveys And Investigations

Initial Survey: 09/02/1986.
Re-Survey: 08/04/2004, 08/16/1999, 08/03/1994, 08/14/1989.
Population Assessment: 08/07/1968.
Special Assessment: 10/19/2006, 11/02/2005, 09/29/2004, 05/25/2004, 10/13/2003, 10/25/2002,
10/18/2001, 10/12/2000, 10/06/1999, 10/26/1998, 10/15/1997, 10/16/1996,
10/11/1995, 10/24/1994, 10/06/1993, 10/23/1992, 10/01/1991, 10/18/1990,
10/19/1989, 10/05/1988, 08/02/1983, 05/13/1954.

STANDARD LAKE SURVEY REPORT
 SPECIAL ASSESSMENT DATED 10/19/2006 FOR DOW NUMBER 66-0044-00

Electrofishing Catch Summary for EF

Standard electrofishing

Total run-time for all stations: 01:00:00
 Total on-time for all stations: 01:00:00
 First Sampling Date: 11/19/2006
 Last Sampling Date: 11/19/2006
 Daylight Flag: No
 Target Species: Young of the year walleye

Abbr	Species	Summary By Numbers			Summary By Weight (Pounds)			
		Total Number	Number per Hour Run-Time	On-Time	Total Weight	Lbs per Hour Run-Time	On-Time	Mean Weight
WAE	Walleye	12	12.00	12.00	5.58	5.58	5.58	0.46

STANDARD LAKE SURVEY REPORT
SPECIAL ASSESSMENT DATED 10/19/2006 FOR DOW NUMBER 66-0044-00

Length Frequency Distribution For EF

Standard electrofishing

(Field work conducted on 11/19/2006)

	<u>WAE</u>	<u>YWAE</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	-	2
6.50 - 6.99	-	2
7.00 - 7.49	-	1
7.50 - 7.99	-	2
8.00 - 8.49	-	-
8.50 - 8.99	-	-
9.00 - 9.49	-	-
9.50 - 9.99	-	-
10.00 - 10.49	-	-
10.50 - 10.99	1	-
11.00 - 11.49	1	-
11.50 - 11.99	1	-
12.00 - 12.99	-	-
13.00 - 13.99	-	-
14.00 - 14.99	-	-
15.00 - 15.99	-	-
16.00 - 16.99	-	-
17.00 - 17.99	2	-
18.00 - 18.99	-	-
19.00 - 19.99	-	-
20.00 - 20.99	-	-
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>WAE</u>	<u>YWAE</u>
Total	5	7
Min. Length	10.63	6.18
Max. Length	17.76	7.99
Mean Length	13.71	7.01
# Measured	5	7
No Lengths for	0	0

STANDARD LAKE SURVEY REPORT
SPECIAL ASSESSMENT DATED 10/19/2006 FOR DOW NUMBER 66-0044-00

Age Class Frequency Distribution

Species and Gear (1)	Number of Fish (2)			Number of Fish in Year Class ('yy) and Age Class															
	Aged	Keyed	Unaged	'06 0	'05 1	'04 2	'03 3	'02 4	'01 5	'00 6	'99 7	'98 8	'97 9	'96 10	'95 11	'94 12	'93 13	'92 14	<'92 15+
Walleye																			
EF	11	1	0	7	2	1	0	0	0	2	0	0	0	0	0	0	0	0	0

(1) Key to sampling gear abbreviations:

EF = Standard electrofishing

(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.

Survey Crew Notes

fall walleye electrofishing survey

Area Signed by user 'daweitze' on 07/16/2007 as approved by Hugh Valiant.

Area Signed by user 'daweitze' on 07/16/2007

Region Signed by user 'jalauer1' on 07/20/2007

Field Notes - General Field

Lower Sakatah Lake was sampled using standard nighttime boat electrofishing on October 19, 2006 to evaluate the status of the walleye population and determine the presence of young of the year (YOY) walleye. This evaluation is part of an annual assessment of walleye on the Cannon River chain of lakes. Three sites were sampled for 20 minutes each.

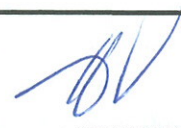
Discussion

Only 12 walleye were sampled in one hour of electrofishing, 7 of which were age-0 fish. Catch per effort (CPE) of YOY walleye in 2006 was below the 20-year mean for Lower Sakatah Lake but increased from 2005 when one YOY walleye was sampled. Since Lower Sakatah Lake was first evaluated in 1987, CPE of YOY walleye has varied among years (SE=4.6) with a mean of 13 YOY/hr. Natural reproduction appears very limited. Lower Sakatah Lake has frequently been stocked with walleye fry and is currently stocked 3 out of 4 years. Fry stocking appears to contribute greatly to the presence of YOY walleye. Mean CPE for stocked years is 18 YOY walleye/hr (SE=3.5) while the mean for years without fry stocking is 2 YOY walleye/hr (SE=1.76). Although some years have produced high CPE of YOY walleye, YOY production is typically lower than Tetonka, Upper Sakatah, and Cannon lakes. It should be noted that downstream migration from Lower Sakatah to Cannon Lake may contribute to differences in CPE between the two lakes.

Status Of The Fishery

Fry stocking appears to contribute to the presence of YOY walleye as natural reproduction is extremely limited. Although YOY production may be significant in some years, CPE is typically less in Lower Sakatah Lake than some other lakes in the chain. Sampling in 2006 resulted in 7 YOY walleye and may represent poor fry survival to fingerling size or significant downstream migration from the lake. Lake surveys have indicated that Lower Sakatah Lake is a consistent producer of walleye. Despite inconsistent YOY walleye production, gill net (GN) catches of walleye from Lower Sakatah Lake have indicated good walleye abundance (6-9/GN) since the 1980s. Poor YOY abundance in 2006 is not likely to significantly impact the overall walleye fishery of Lower Sakatah Lake.

Approval Dates And Notices



Date Approved By Waterville Area Fisheries Supervisor: 07/16/2007

Date Approved By Southern Region Fisheries Manager: 07/20/2007



©Copyright 2007, 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.

(Standard Lake Survey Report revision: 07/09/2007-RJE. Printed on 07/24/2007 at 1:29:36PM)

Lower Sakatah Lake Fall Walleye Electrofishing



Waterville Fisheries Area

Legend

- Water Access Site
- EF Endpts



Created by
David Weitzel
2006

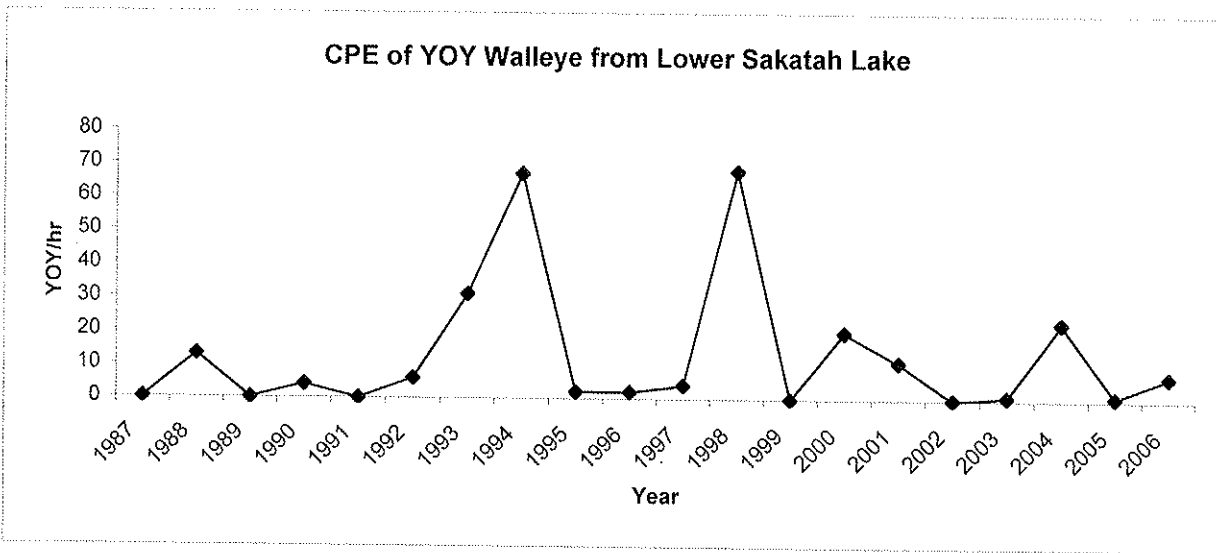


YOY Walleye catch per hour by year (bold print indicates years with no stocking)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
CANNON				283	0	58	13	58	22	141	14	2	3	12	33	4
GORMAN	0	29	114	42	0	17	5	14	1	2	0	8	0	20	3	14
L. SAKATAH	0	13	0	4	0	6	31	67	2	2	4	68	0	20	11	0
SABRE	0	46	1	9	0	1	18	47	4	63	0	28	6	20	16	1
TETONKA	1	38	2	35	3	28	22	19	11	79	51	39	6	21	68	0
U. SAKATAH	0	30	1	6	0	26	56	41	16	61	12	56	0	7	173	1
mean for year	0.2	31.2	23.6	63.2	0.5	22.7	24.2	41.0	9.3	58.0	13.5	33.5	2.5	16.6	50.7	3.3
SE	0.2	5.5	22.6	44.4	0.5	8.3	7.3	8.6	3.5	21.3	7.9	10.6	1.2	2.3	26.2	2.2
N	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6

	2003	2004	2005	2006
CANNON	1	185	24	101
GORMAN	0	8	10	0
L. SAKATAH	1	23	1	7
SABRE	0	35	1	
TETONKA	0	11	2	21
U. SAKATAH	0	50	41	14

	2003	2004	2005	2006
mean for year	0.3	52.0	13.2	28.6
SE	0.2	27.3	6.6	18.4
N	6	6	6	5



SUBREPORTS WITH NO DATA

(This page is not part of the Standard Lake Survey Report and should be discarded)

Lake Name: Lower Sakatah

Survey Type: Special Assessment

DOW Number: 66-0044-00

Survey ID Date: 10/19/2006

Survey Status: Region Signed

The following 19 report components are not included in this report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History
4. Lake Inlets
5. Additional Inlet Information
6. Lake Outlets
7. Additional Outlet Information
8. Water Control Structure (Dam)
9. Surrounding Watershed Characteristics And Shoreline Characteristics
10. Resorts And Campgrounds
11. Fish Spawning Conditions
12. Erosion And Pollution
13. Fish Diseases And Parasites
14. Aquatic Vegetation And Shoalwater Substrates
15. Dissolved Oxygen And Temperature Profile Of Lake Water
16. Field Measurements Of Water Quality
17. Laboratory Analysis Of Water Chemistry
18. Length At Capture With Last Incremental Length*
19. Back-Calculated Lengths

* In reference to the 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 on 07/24/2007 may not be reflected in the Distribution tables until 07/25/2007.