



Minnesota Department of Natural Resources
 Fisheries Management
 STANDARD LAKE SURVEY REPORT



Lake Name: Upper Sakatah
 DOW Number: 40-0002-00

Survey Type: Re-Survey
 Survey ID Date: 08/03/2009

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID: 41
 DNR Sounding Map Number: C0434
 Alternate Lake Class ID: 41

Lake Location

Primary County: Le Sueur
 Nearest Town: Waterville
 All Counties: Le Sueur, Rice.

Legal Descriptions

Lake Center: Township - 109N Range - 23W Section - 24
 PLS Section Lake Center: 10902324

All Legal Descriptions:

Le Sueur County: Township - 109N Range - 23W Sections - 23, 24, 25, 26, 27
 Rice County: Township - 109N Range - 22W Sections - 19, 30

Area Office

Area Name: Waterville
 Region Name: Southern
 ORG Code: F417
 Region Number: 4

Lake Access

(Information based on Re-Survey dated 08/14/1989)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Fee/Permit needed	Concrete	STATE ACCESS IN SAKATAH STATE PARK ON SO. SHORE;.

Lake Characteristics

Lake Area (planimetered acres): 881.00
 GIS Lake Area (acres): 891.99
 DOW Lake Area (acres): 881.00
 Littoral Area (acres): 881.00
 Area in MN (acres): 891.99
 Maximum Depth (feet): 12.0
 Mean Depth (feet): N/A
 GIS Shoreline Length (miles): 8.01
 Maximum Fetch (miles): 2.00
 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): 940,540

Minor Watershed

Name: Lower Sakatah L
 Watershed Number: 94
 Watershed size (acres): 6,041

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Surveys And Investigations

Initial Survey: 07/23/1950.

Re-Survey: 08/03/2009, 08/02/2004, 08/09/1999, 08/01/1994, 08/14/1989, 06/16/1986, 06/12/1981, 06/09/1958.

Special Assessment: 10/19/2006, 10/10/2005, 09/29/2004, 05/26/2004, 10/13/2003, 10/25/2002, 10/18/2001, 10/11/2000, 09/28/1999, 10/15/1998, 10/15/1997, 03/29/1997, 10/09/1996, 10/11/1995, 10/26/1994, 10/06/1993, 10/23/1992, 10/01/1991, 10/18/1990, 10/19/1989, 10/06/1988.

Dissolved Oxygen Check: 01/12/2010.

Natural Reproduction Check: 10/29/2007.

Resorts And Campgrounds

<u>Station ID</u>	<u>Resort/Campground Name</u>	<u>Number of Cabins</u>	<u>Number of Campsites</u>	<u>Comments</u>
RE - 1	Camp Dels	6	410	Largest camping resort in the Waterville area with two swimming pools, animal petting zoo, playground, other amenities.
RE - 2	Knotty Pine Resort	5	N/A	N/A
RE - 3	Lakeview Resort	4	30	N/A
RE - 4	Sakatah Bay Resort	5	N/A	N/A
RE - 5	O'Leary's Lakeside Cabins	2	15	N/A
RE - 6	Cannon Gate Park	N/A	60	N/A
RE - 7	Scott's Campground	N/A	60	N/A
Totals:		N/A	N/A	

Fish Spawning Conditions

<u>Station ID</u>	<u>Species Name</u>	<u>Rating</u>	<u>Location / Comments</u>
SP - 1	black crappie	Poor	No protected bays, some coarse woody debris, no emergent vegetation.
	bluegill	Fair	Although silty, rock and sand shorelines do give bluegills some places to spawn and coarse woody debris near the state park and curlyleaf pondweed provide some protective cover for nest sites.
	largemouth bass	Fair	Coarse woody debris, early season curlyleaf pondweed provide some spawning cover.
	northern pike	Poor	With no adjacent wetlands, pike recruitment is low.
	walleye	None	Too much silt, good wave action when windy, not enough coarse gravel or rubble.
	yellow perch	Poor	Little emergent vegetation leaves few places for perch to deposit their egg strings.

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Fish Diseases And Parasites

Species Examined	Number of Fish Examined			Examination Results	
	Internally	Externally	In Lab	Condition Observed	Number of Fish
freshwater drum	-	-	-	Leeches	1
northern pike	-	-	-	Neascus (Black Spot)	1

Aquatic Vegetation And Shoalwater Substrates

Abundance Of Aquatic Plants (In Transects)

Number of Transects: 28
 Maximum Depth of Aquatic Vegetation Sample (Feet): 6.0
 Date(s) of Field Work: 08/17/2009

Common Name	Type	Frequency of Occurrence (%)	Abundance Rating	Mean Abundance (%)
Canada Waterweed	Submergent	82	Common	62.5
Coontail / Common hornwort	Submergent	39	Rare	26.8
Curly-leaf Pondweed	Submergent	4	Rare	0.6
Filamentous algae	-	39	Rare	23.2
Lesser Duckweed	Free-Floating	14	Rare	9.5
Narrow-leaf Pondweed Group	Submergent	7	Rare	1.2
Sago Pondweed	Submergent	14	Rare	10.7
Water Star-grass	Submergent	4	Rare	0.6

(Floating-Leaf and wetland species may be tallied with emergent species)

Shoalwater Substrates (In Transects)

Common Name	Frequency of Occurrence (%)	Abundance Rating	Mean Abundance (%)
Gravel	11	Rare	8.9
Muck	7	Rare	6.0
Sand	93	Abundant	77.4
Silt	75	Common	57.7

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	08/03/2009	Surface	1.4	N/A	N/A	Brown Grn	Algae

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 8
First Set Date: 08/03/2009
Last Lift Date: 08/07/2009
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BLB	Black Bullhead	73	9.13	4.56	23.42	83.00
BLC	Black Crappie	27	3.38	0.83	2.63	11.10
BLG	Bluegill	65	8.13	N/A	N/A	N/A
BOF	Bowfin (Dogfish)	3	0.38	0.10	0.17	1.00
CCF	Channel Catfish	2	0.25	N/A	N/A	N/A
CAP	Common Carp	4	0.50	0.52	1.80	9.13
FRD	Freshwater Drum	199	24.88	3.64	10.25	24.24
GOS	Golden Shiner	20	2.50	0.14	0.26	0.68
LMB	Largemouth Bass	1	0.13	0.26	0.78	1.77
NOP	Northern Pike	17	2.13	1.20	3.50	7.79
WAE	Walleye	25	3.13	3.22	7.67	15.33
WHB	White Bass	83	10.38	0.75	1.67	7.15
WTS	White Sucker	17	2.13	0.75	2.00	5.88
YEB	Yellow Bullhead	1	0.13	0.33	1.17	3.58
YEP	Yellow Perch	212	26.50	3.00	8.94	22.50
Total Fish/Set:			93.63	* 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	Quartiles for Lake Class 41*		
					25%	50%	75%
BLB	Black Bullhead	76.74	9.59	1.05	0.21	0.38	0.60
BLC	Black Crappie	2.07	0.26	0.08	0.17	0.25	0.37
BLG	Bluegill	3.93	0.49	0.06	N/A	N/A	N/A
BOF	Bowfin (Dogfish)	13.19	1.65	4.40	3.33	4.35	5.50
CCF	Channel Catfish	20.84	2.60	10.42	N/A	N/A	N/A
CAP	Common Carp	16.21	2.03	4.05	1.00	2.39	4.88
FRD	Freshwater Drum	157.21	19.65	0.79	0.25	0.45	1.00
GOS	Golden Shiner	1.88	0.23	0.09	0.07	0.10	0.16
LMB	Largemouth Bass	0.20	0.02	0.20	0.25	0.50	1.09
NOP	Northern Pike	60.48	7.56	3.56	1.53	2.12	2.95
WAE	Walleye	21.39	2.67	0.86	0.88	1.37	1.90
WHB	White Bass	85.60	10.70	1.03	N/A	N/A	N/A
WTS	White Sucker	26.36	3.30	1.55	1.44	1.87	2.20
YEB	Yellow Bullhead	1.18	0.15	1.18	0.45	0.70	0.93
YEP	Yellow Perch	47.62	5.95	0.22	0.14	0.24	0.36
Total Pounds Fish/Set:			66.86	* Quartiles for Mean Weight			

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Net Catch Summary by Numbers for TN

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

Number of Sets: 12
 First Set Date: 08/03/2009
 Last Lift Date: 08/07/2009
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 41*		
				25%	50%	75%
BIB	Bigmouth Buffalo	1	0.08	0.22	0.48	1.45
BLB	Black Bullhead	65	5.42	1.33	14.73	78.13
BLC	Black Crappie	7	0.58	0.98	2.96	12.33
BLG	Bluegill	85	7.08	1.05	3.00	14.93
BOF	Bowfin (Dogfish)	20	1.67	0.13	0.30	0.68
CAP	Common Carp	51	4.25	0.70	1.80	5.11
FRD	Freshwater Drum	227	18.92	0.36	0.95	4.00
GOS	Golden Shiner	18	1.50	0.17	0.41	1.00
GSF	Green Sunfish	3	0.25	0.13	0.33	0.66
LMB	Largemouth Bass	2	0.17	0.13	0.40	0.75
NOP	Northern Pike	7	0.58	N/A	N/A	N/A
WAE	Walleye	2	0.17	0.31	0.73	1.69
WHB	White Bass	4	0.33	0.38	1.09	1.91
YEB	Yellow Bullhead	23	1.92	0.50	1.60	4.05
YEP	Yellow Perch	30	2.50	0.25	0.81	2.62
Total Fish/Set:			45.42	* 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 41*		
					25%	50%	75%
BIB	Bigmouth Buffalo	0.54	0.05	0.54	1.25	3.18	5.07
BLB	Black Bullhead	68.53	5.71	1.05	0.21	0.36	0.59
BLC	Black Crappie	0.86	0.07	0.12	0.23	0.34	0.49
BLG	Bluegill	5.60	0.47	0.07	0.16	0.25	0.38
BOF	Bowfin (Dogfish)	93.61	7.80	4.68	3.65	4.57	5.08
CAP	Common Carp	144.53	12.04	2.83	2.33	4.10	5.64
FRD	Freshwater Drum	242.55	20.21	1.07	0.49	0.85	1.74
GOS	Golden Shiner	0.93	0.08	0.05	0.06	0.10	0.10
GSF	Green Sunfish	0.13	0.01	0.04	0.06	0.10	0.17
LMB	Largemouth Bass	2.52	0.21	1.26	0.41	1.00	1.54
NOP	Northern Pike	18.27	1.52	2.61	N/A	N/A	N/A
WAE	Walleye	3.05	0.25	1.53	0.85	1.63	2.41
WHB	White Bass	4.75	0.40	1.19	0.18	0.63	0.79
YEB	Yellow Bullhead	24.73	2.06	1.08	0.40	0.60	0.84
YEP	Yellow Perch	6.05	0.50	0.20	0.13	0.20	0.31
Total Pounds Fish/Set:			51.39	* Quartiles for Mean Weight			

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

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: 05/26/2009
Last Sampling Date: 05/26/2009
Daylight Sampling: Yes
Target Species: All ages largemouth bass

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
LMB	Largemouth Bass	65	65.00	65.00	90.22	90.22	90.22	1.39

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 08/03/2009 and 08/07/2009)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FRD</u>	<u>GOS</u>	<u>LMB</u>	<u>NOP</u>	<u>WAE</u>	<u>WHB</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	39	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	7	5	-	-	-	-	-	-	-	-	1	-	-	-
5.00 - 5.49	-	14	2	-	-	-	-	-	-	-	-	-	-	-	-
5.50 - 5.99	-	4	3	-	-	-	-	4	-	-	-	-	-	-	18
6.00 - 6.49	-	1	4	-	-	-	-	13	-	-	-	-	-	-	35
6.50 - 6.99	-	1	-	-	-	-	-	2	-	-	-	-	-	-	36
7.00 - 7.49	-	-	-	-	-	-	1	-	1	-	1	1	-	-	18
7.50 - 7.99	-	-	-	-	-	-	1	1	-	-	-	3	-	-	28
8.00 - 8.49	-	-	-	-	-	-	4	-	-	-	1	2	-	-	17
8.50 - 8.99	-	-	-	-	-	-	13	-	-	-	3	7	-	-	13
9.00 - 9.49	-	-	-	-	-	-	19	-	-	-	4	4	-	-	26
9.50 - 9.99	1	-	-	-	-	-	26	-	-	-	1	2	-	-	18
10.00 - 10.49	3	-	-	-	-	-	21	-	-	-	-	-	-	-	2
10.50 - 10.99	5	-	-	-	-	-	13	-	-	-	-	-	-	-	1
11.00 - 11.49	10	-	-	-	1	-	3	-	-	-	-	-	-	-	-
11.50 - 11.99	17	-	-	-	1	-	2	-	-	-	-	2	-	-	-
12.00 - 12.99	21	-	-	-	-	-	18	-	-	-	-	8	-	1	-
13.00 - 13.99	13	-	-	-	-	-	25	-	-	-	5	21	2	-	-
14.00 - 14.99	1	-	-	-	-	-	33	-	-	-	1	18	5	-	-
15.00 - 15.99	2	-	-	-	-	-	13	-	-	-	4	11	2	-	-
16.00 - 16.99	-	-	-	-	-	-	5	-	-	-	1	1	1	-	-
17.00 - 17.99	-	-	-	-	-	-	-	-	-	-	3	-	4	-	-
18.00 - 18.99	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-
19.00 - 19.99	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	-	-	1	1	-	-	-	-	2	-	-	-	-	-
23.00 - 23.99	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-
24.00 - 24.99	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
26.00 - 26.99	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-
27.00 - 27.99	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	73	27	66	3	4	2	198	20	1	17	24	81	15	1	212
Min. Length	9.76	4.61	3.43	22.44	11.34	26.65	7.24	5.71	7.32	18.90	7.36	4.76	13.58	12.87	5.55
Max. Length	15.63	6.81	6.34	24.09	27.56	31.93	18.66	7.76	7.32	31.02	17.91	16.14	18.39	12.87	10.59
Mean Length	12.17	5.24	4.32	23.45	18.22	29.29	11.86	6.29	7.32	24.78	12.56	12.58	15.57	12.87	7.68
# Measured	73	27	52	3	4	2	198	19	1	17	24	80	14	1	170
No Lengths for	0	0	13	0	0	0	1	1	0	0	1	3	3	0	42

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RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Length Frequency Distribution For TN

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

(Field work conducted between 08/03/2009 and 08/07/2009)

	<u>BIB</u>	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>BOF</u>	<u>CAP</u>	<u>FRD</u>	<u>GOS</u>	<u>GSF</u>	<u>LMB</u>	<u>NOP</u>	<u>WAE</u>	<u>WHB</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	19	-	1	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	31	-	4	-	-	2	-	-	-	-	-	-
4.00 - 4.49	-	1	-	15	-	3	-	-	1	-	-	-	-	-	-
4.50 - 4.99	-	2	1	8	-	-	-	3	-	-	-	-	-	1	-
5.00 - 5.49	-	-	1	1	-	2	-	13	-	-	-	-	-	1	-
5.50 - 5.99	-	-	1	2	-	1	1	2	-	-	-	-	-	2	1
6.00 - 6.49	-	-	2	3	-	-	-	-	-	-	-	-	-	1	4
6.50 - 6.99	-	-	2	1	-	-	4	-	-	-	-	-	-	-	7
7.00 - 7.49	-	1	-	1	-	-	13	-	-	-	-	-	-	-	9
7.50 - 7.99	-	-	-	4	-	-	9	-	-	-	-	-	-	-	2
8.00 - 8.49	-	1	-	-	-	-	-	-	-	1	-	-	-	-	2
8.50 - 8.99	-	-	-	-	-	-	8	-	-	-	-	-	1	-	-
9.00 - 9.49	-	-	-	-	-	1	20	-	-	-	-	-	-	-	1
9.50 - 9.99	1	1	-	-	-	-	14	-	-	-	-	-	-	-	3
10.00 - 10.49	-	2	-	-	-	-	23	-	-	-	-	-	-	-	-
10.50 - 10.99	-	4	-	-	-	1	8	-	-	-	-	-	-	-	1
11.00 - 11.49	-	8	-	-	-	-	1	-	-	-	-	-	-	1	-
11.50 - 11.99	-	8	-	-	-	1	-	-	-	-	-	-	-	1	-
12.00 - 12.99	-	25	-	-	-	4	7	-	-	-	-	-	-	4	-
13.00 - 13.99	-	10	-	-	-	5	5	-	-	-	-	-	-	8	-
14.00 - 14.99	-	1	-	-	-	3	37	-	-	-	-	-	1	3	-
15.00 - 15.99	-	-	-	-	-	2	44	-	-	-	-	-	2	1	-
16.00 - 16.99	-	-	-	-	-	-	16	-	-	1	-	1	-	-	-
17.00 - 17.99	-	-	-	-	-	1	5	-	-	-	1	1	-	-	-
18.00 - 18.99	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-
19.00 - 19.99	-	-	-	-	-	1	2	-	-	-	2	-	-	-	-
20.00 - 20.99	-	-	-	-	1	3	-	-	-	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	2	5	-	-	-	-	-	-	-	-	-
22.00 - 22.99	-	1	-	-	2	1	3	-	-	-	1	-	-	-	-
23.00 - 23.99	-	-	-	-	4	1	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	5	1	-	-	-	-	1	-	-	-	-
25.00 - 25.99	-	-	-	-	5	2	-	-	-	-	1	-	-	-	-
26.00 - 26.99	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1	65	7	85	20	51	224	18	3	2	7	2	4	23	30
Min. Length	9.72	4.13	4.96	3.03	20.87	3.43	5.98	4.76	3.66	8.15	17.95	16.06	8.66	4.80	5.67
Max. Length	9.72	22.05	6.81	7.95	27.17	29.92	22.52	5.67	4.13	16.02	27.48	17.40	15.55	15.28	10.63
Mean Length	9.72	11.82	5.97	4.22	23.87	15.34	13.23	5.21	3.91	12.09	22.44	16.73	13.43	11.65	7.42
# Measured	1	65	7	85	20	51	168	18	3	2	7	2	4	23	30
No Lengths for	0	0	0	0	0	0	59	0	0	0	0	0	0	0	0

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Length Frequency Distribution For EF

Standard electrofishing

(Field work conducted on 05/26/2009)

	<u>LMB</u>
< 3.00	-
3.00 - 3.49	-
3.50 - 3.99	-
4.00 - 4.49	3
4.50 - 4.99	3
5.00 - 5.49	3
5.50 - 5.99	4
6.00 - 6.49	5
6.50 - 6.99	3
7.00 - 7.49	-
7.50 - 7.99	-
8.00 - 8.49	1
8.50 - 8.99	-
9.00 - 9.49	-
9.50 - 9.99	-
10.00 - 10.49	-
10.50 - 10.99	-
11.00 - 11.49	-
11.50 - 11.99	-
12.00 - 12.99	3
13.00 - 13.99	3
14.00 - 14.99	13
15.00 - 15.99	10
16.00 - 16.99	8
17.00 - 17.99	5
18.00 - 18.99	1
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>LMB</u>
Total	65
Min. Length	4.29
Max. Length	18.07
Mean Length	12.05
# Measured	65
No Lengths for	0

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

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	'09 0	'08 1	'07 2	'06 3	'05 4	'04 5	'03 6	'02 7	'01 8	'00 9	'99 10	'98 11	'97 12	'96 13	'95 14	<'95 15+
Channel Catfish																			
GN	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Largemouth Bass																			
EF	34	30	1	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(1) Key to sampling gear abbreviations:

GN = Standard gill net sets

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.

Other Species

Gear Type (1)	Other Species (Gender) (2)	Total	Number	Length (inches)	Number	Weight (pounds)
		Num	Measured	Min - Mean - Max	Weighed	Min - Mean - Max
TN	Painted Turtle	2	0	N/A	0	N/A
	Snapping Turtle	1	0	N/A	0	N/A

(1) Key to sampling gear abbreviations:

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

(2) Gender: If identified and reported.

STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Field Notes - General Field

Channel catfish spines were sectioned and read. Upper Sakatah's aging structures are cataloged and available if needed for future use. Staff and timing shortfalls did not leave enough room for fish aging.

Discussion

Upper Sakatah Lake in Le Sueur County is a 881 acre lake located east of the city of Waterville. A public access is located in the city of Waterville on the Cannon River, before it flows into Sakatah Bay, the western basin of Upper Sakatah Lake. There is also a public access located inside Sakatah State Park on the southern shoreline of the lake.

A state park daily or annual vehicle permit is required for park admittance. The lake is accessible from the bridge between Upper and Lower Sakatah on Leroy Avenue. The Cannon River flows through Upper Sakatah Lake from Tetonka Lake, and downstream into Lower Sakatah Lake. It then continues on through the city of Morristown and further east to Cannon Lake. Sakatah State Park is located on the south shoreline of most of Upper Sakatah Lake. With purchase of a state park permit, a resident may take fish by angling (in open water) without an angling license when shore fishing or wading on state-owned land within a state park. Because Sakatah State Park does not encompass the entire shoreline of Upper or Lower Sakatah State Park, the angling license exemption does not extend to residents angling from a boat or float; those anglers must still purchase an angling license.

Upper Sakatah Lake was surveyed the week of August 3rd, 2009 to monitor the fish community and aquatic habitat. Black bullheads are notable for their decline in abundance from 2004. During the 2004 assessment, black bullheads averaged 117 fish per gill net lift. In 2009, black bullheads averaged 9 fish per gill net lift.

Bluegills were the most abundant game fish in gill and trap net catches, at 8.1 and 7.1 respectively per lift. Average size of bluegills is very poor, at 4.3 inches for all fish measured. Three percent of fish sampled were larger than 7 inches in length. Black crappies continue to maintain a low level abundance in Sakatah. Black crappies averaged 5.2 inches in length and averaged 3.4 fish per gill net lift.

White bass averaged just over 10 fish per gill net lift. White bass are found throughout the Cannon River chain of lakes. Length ranged from 5 to 16 inches, with an average length of 12.6 inches.

Yellow perch abundance has increased since the 2004 assessment, from 10 to 27 per gill net lift. Also in that time size has decreased from an average weight of 0.45 pounds per fish to 0.22 pounds per fish. 22 percent of fish sampled in gill nets were larger than 9 inches.

Northern pike maintain a low level of abundance at just over two fish per gill net lift. Pike size ranged from 18 to 31 inches, with an average of 25 inches. Upper Sakatah is a popular darkhouse spearing lake because of its shallow water and often clear winter waters; many shanties are found across the lake with many concentrated along the distinct point/bar on the north end of the lake.

Walleye, like northern pike, maintain a low level of abundance on Upper Sakatah. Walleye average 3 fish per gill net lift, ranging in size from 7 to 18 inches with an average of 12.6 inches. Upper Sakatah is stocked with walleye fry three out of four years.

Two channel catfish were caught during the survey. Channel catfish are found throughout lakes in the Cannon River chain. Both were large individuals, one at 27 inches and the other at 32 inches total length.

Largemouth bass were sampled using a boom electrofishing boat in late May. Bass averaged 65 fish per hour of on-time. Average length was 12 inches, with an average weight of 1.4 pounds. Size ranged from four to eighteen inches, with most fish concentrated between 14 and 16 inches. Largemouth bass do well in Upper and Lower Sakatah, in part because of the minimal shoreline development and fair amount of coarse woody debris in the water.

Other fish observed in the survey include bigmouth buffalo, bowfin (dogfish), common carp, freshwater drum, golden shiner, green sunfish, white sucker, and yellow bullhead.

Discussion (Continued)

Anglers can help maintain or improve the quality of fishing by practicing selective harvest. Selective harvest allows for the harvest of smaller fish for table fare, but encourages release of medium- to large-sized fish. Releasing these fish can help maintain balance in the fish community in Upper Sakatah Lake and provide anglers the opportunity to catch more and larger fish in the future.

Shoreline areas on the land and into the shallow water provide essential habitat for fish and wildlife that live in or near Minnesota's lakes. Overdeveloped shorelines cannot support the fish, wildlife, and clean water that are associated with natural undeveloped lakes. Shoreline habitat consists of aquatic plants, woody plants, and natural lake bottom soils.

Plants in the water and at the water's edge provide habitat, prevent erosion, and absorb excess nutrients. Shrubs, trees, and woody debris such as fallen trees or limbs provide good habitat both above and below the water and should be left in place. By leaving a buffer strip of natural vegetation along the shoreline, property owners can reduce erosion, help maintain water quality, and provide habitat and travel corridors for wildlife.

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Status Of The Fishery

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STANDARD LAKE SURVEY REPORT
RE-SURVEY DATED 08/03/2009 FOR DOW NUMBER 40-0002-00

Approval Dates And Notices

Date Approved By Waterville Area Fisheries Supervisor: 05/10/2010

Date Approved By Southern Region Fisheries Manager: _____



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Standard Lake Survey Report revision: 05/05/2010-RJE. Data Date: 08/24/2010 at 8:32 am .

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