



# Minnesota Department of Natural Resources Fisheries Management



## STANDARD LAKE SURVEY REPORT DRAFT VERSION - PRELIMINARY DATA

Lake Name: Orono  
DOW Number: 71-0013-00

Survey Type: Re-Survey  
Survey ID Date: 08/04/2008

### Lake Identification

Alternate Lake Name: N/A  
Primary Lake Class ID: 42

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

### Lake Location

Primary County: Sherburne

Nearest Town: Elk River

### Legal Descriptions

Lake Center: Township - 33N Range - 26W Section - 32  
PLS Section Lake Center: 3302632

#### All Legal Descriptions:

Sherburne County: Township - 33N Range - 26W Sections - 29, 30, 31, 32, 33

### Area Office

Area Name: Montrose  
Region Name: Central

ORG Code: F315  
Region Number: 3

### Lake Access

Station	Ownership	Public Use	Type	Location / Comments
AC - 1	City	Open to Public use	Concrete	Parking for approximately 8 trailers.

### Lake Characteristics

Lake Area (planimetered acres): 281.00	GIS Shoreline Length (miles): 12.17
GIS Lake Area (acres): 300.50	Maximum Fetch (miles): 2.00
DOW Lake Area (acres): 300.00	Fetch Orientation (degrees): 292
Littoral Area (acres): 281.00	USGS Quad Map Number: Q15d
Area in MN (acres): 300.50	USGS Quad 24K GIS Index: 3330
Maximum Depth (feet): 18.0	
Mean Depth (feet): N/A	

### Watershed Characteristics

#### Major Watershed

Name: Miss R-St. Cloud  
Watershed Number: 17  
Watershed size (acres): 717,770

#### Minor Watershed

Name: Elk R  
Watershed Number: 45  
Watershed size (acres): 5,600

### Surveys And Investigations

Initial Survey: 08/02/1984.  
Re-Survey: 08/04/2008.  
Population Assessment: 08/07/1989.

**Surveys And Investigations (Continued)**

Special Assessment: 06/12/2003, 05/28/2002, 04/25/2001, 05/17/2000.

**Current Water Level**

Station	Date	Level	Reading (Feet)
BM - 1	08/04/2008	Normal	1.20

**Benchmark and Gauge Descriptions / Locations**

Station	Location Description
BM - 1	Staff gage at south east side of wing wall at outlet dam.

**Water Level History**

Normal Water Level: N/A

Average Annual Fluctuations: N/A

Source of Fluctuation Data: N/A

Highest Recorded Water Level: N/A

Source of Highest Level Data: N/A

Lowest Recorded Water Level: N/A

Source of Lowest Level Data: N/A

**History of Water Level:** Reading represents a number on the gauge.

Station	Date	Level	Reading (Feet)
BM - 1	08/04/2008	Normal	1.20

**Lake Inlets**

(Field work conducted on 08/04/2008)

Station	Name	Kittle Number	Origin and Cover Type (Primary and Secondary)	Surface Temp (°F)
IN - 1	Elk River	N/A	Origin - N/A Cover Type - N/A	N/A
IN - 2	Unnamed	N/A	Marsh Marshland (P) and Residential (S)	72.3
IN - 3	Unnamed	N/A	Storm sewer Municipal (P) and Residential (S)	72.9
IN - 4	Unnamed	N/A	Storm sewer Municipal (P)	72.9
IN - 5	Unnamed	N/A	Marsh Municipal (P) and Marshland (S)	74.1
IN - 6		N/A	Storm sewer Municipal (P)	N/A
IN - 7	Unnamed	N/A	Storm sewer Municipal (P)	N/A

**Additional Inlet Information**

Station	Mean Width (feet)	Mean Depth (feet)	Discharge (CFS)	Mean Velocity (FPS)	Barriers to Fish Movement	Known Fish Spawning Runs
IN - 1	0.00	0.00	0.0	0.00	N/A	N/A
IN - 2	2.40	1.90	0.9	0.20	No	NOP
IN - 3	3.60	0.70	0.0	0.00	Yes; Screened grate	N/A
IN - 4	2.00	0.00	0.0	0.00	Yes; screened grate	N/A
IN - 5	5.50	0.50	0.0	0.00	Periodic; low flow	N/A
IN - 6	3.00	0.00	0.0	0.00	Periodic; low flow	N/A
IN - 7	7.00	0.00	0.0	0.00	Yes; screened grate	N/A

**Lake Outlets**

(Field work conducted on 08/04/2008)

Station	Name	Kittle Number	Tributary To
OUT - 1	Elk River	N/A	Mississippi River

**Additional Outlet Information**

Station	Mean Width (feet)	Mean Depth (feet)	Flow (CFS)	Mean Velocity (FPS)	Barriers to Fish Movement	Water Control Structure
OUT - 1	200.00	12.00	95.00	0.0	Yes; 20 foot dam	Hydro Power or Industrial Dam

**Water Control Structure (Dam)**

Station	Head (feet)	Water Height Sill (feet)	Gauge Reading (feet)	Type	Owner
DAM - 1	20.0	12.5	N/A	Hydro Power or Industrial Dam	City

**Fish Spawning Conditions**

Station	Species Name	Rating	Location / Comments
SP - 1	black crappie	Poor	Few areas with firm substrate and emergent vegetation .
	bluegill	Poor	Very few areas with submerged vegetation for spawning.
	northern pike	Fair	Access to wetland spawning sites at inlet two on north side of lake.
	smallmouth bass	Good	Areas with coarse rubble protected from heavy wave action present including access to the Elk River for smallmouth to spawn.

## Fish Spawning Conditions (Continued)

Station	Species Name	Rating	Location / Comments
SP - 1 (Cont.)	walleye	Fair	Direct access to spawning riffles in the Elk River upstream of Orono Lake.
	yellow perch	Poor	Each of submerged vegetation for yellow perch to spawns over.

## Aquatic Vegetation And Shoalwater Substrates

## Abundance Of Aquatic Plants (In Transects)

Number of Transects: 20

Maximum Depth of Aquatic Vegetation Sample 3.5

Date(s) of Field Work: 08/05/2008

Common Name	Type	Frequency of Occurrence (%)	Abundance Rating	Mean Abundance (%)
Broad-leaved Arrowhead	Emergent	5	Rare	0.8
Canada Waterweed	Submergent	15	Rare	2.5
Coontail / Common hornwort	Submergent	30	Rare	5.0
Curly-leaf Pondweed	Submergent	15	Rare	2.5
Dogwood Group	-	20	Rare	3.3
Filamentous algae	-	5	Rare	0.8
Giant Burreed	Emergent	10	Rare	1.7
Greater Duckweed	Free-Floating	15	Rare	2.5
Jewelweed Group	Terrestrial	15	Rare	2.5
Joe-Pye Weed	Terrestrial	20	Rare	3.3
Lesser Duckweed	Free-Floating	25	Rare	4.2
Narrow-leaf Pondweed Group	Submergent	5	Rare	0.8
Purple Loosestrife	Terrestrial	5	Rare	0.8
Reed Canary Grass	Terrestrial	55	Rare	9.2
Water (wild) Celery	Submergent	10	Rare	1.7
Water Star-grass	Submergent	5	Rare	0.8
White Waterlily Group	Floating-leaf	55	Rare	10.8
Willow Group	-	10	Rare	1.7

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

## Shoalwater Substrates (In Transects)

Common Name	Frequency of Occurrence (%)	Abundance Rating	Mean Abundance (%)
Boulder	35	Rare	9.2
Gravel	85	Common	40.8
Muck	25	Rare	7.5
Rubble	50	Rare	11.7
Sand	100	Abundant	75.0
Silt	95	Rare	20.8

## Dissolved Oxygen And Temperature Profile Of Lake Water

Station	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water Temperature (°F)	Dissolved Oxygen (ppm)
WQ - 1	08/04/2008	13.6	Surface	75.6	8.4
			1.0	75.4	8.4

Dissolved Oxygen And Temperature Profile Of Lake Water (Continued)

Station	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water Temperature (°F)	Dissolved Oxygen (ppm)
WQ - 1 (Continued)	08/04/2008	13.6	2.0	75.6	8.4
			3.0	75.2	8.1
			4.0	75.0	8.1
			5.0	75.0	7.5
			6.0	75.0	7.4
			7.0	74.5	7.0
			8.0	74.3	7.1
			9.0	74.1	7.1
			10.0	74.1	6.9
			11.0	74.1	6.9
			12.0	74.1	6.9
			13.0	74.1	6.8

Field Measurements Of Water Quality

Station	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
WQ - 1	08/04/2008	Surface	2.0	9.20	218	Brown Grn	Algae

Net Catch Summary by Numbers for GN

## Standard gill net sets

Number of Sets: 6  
 First Set Date: 08/04/2008  
 Last Lift Date: 08/07/2008  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 42*		
				25%	50%	75%
BLB	Black Bullhead	43	7.17	9.63	39.75	91.42
BLC	Black Crappie	10	1.67	1.50	5.50	14.69
CAP	Common Carp	6	1.00	0.33	1.25	4.20
NOP	Northern Pike	10	1.67	1.54	4.29	7.00
RKB	Rock Bass	8	1.33	0.33	0.42	2.13
SHR	Shorthead Redhorse	19	3.17	0.31	1.25	2.00
SLR	Silver Redhorse	6	1.00	N/A	N/A	N/A
SMB	Smallmouth Bass	6	1.00	N/A	N/A	N/A
WAE	Walleye	13	2.17	1.00	2.50	7.33
WHC	White Crappie	1	0.17	1.15	2.75	6.44
WTS	White Sucker	18	3.00	0.50	2.00	7.44
YEB	Yellow Bullhead	23	3.83	0.63	3.00	6.75
YEP	Yellow Perch	18	3.00	3.00	8.00	26.50
Total Fish/Set:			30.17	* 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 42*		
					25%	50%	75%
BLB	Black Bullhead	20.96	3.49	0.49	0.18	0.28	0.49
BLC	Black Crappie	1.95	0.32	0.19	0.12	0.18	0.29
CAP	Common Carp	30.70	5.12	5.12	0.78	2.00	5.00
NOP	Northern Pike	19.67	3.28	1.97	1.49	2.17	3.40
RKB	Rock Bass	2.90	0.48	0.36	0.31	0.45	0.53
SHR	Shorthead Redhorse	44.97	7.50	2.37	1.11	1.68	2.30
SLR	Silver Redhorse	17.75	2.96	2.96	N/A	N/A	N/A
SMB	Smallmouth Bass	8.75	1.46	1.46	N/A	N/A	N/A
WAE	Walleye	38.81	6.47	2.99	0.95	1.58	2.80
WHC	White Crappie	0.11	0.02	0.11	0.10	0.20	0.38
WTS	White Sucker	28.63	4.77	1.59	0.99	1.78	2.24
YEB	Yellow Bullhead	8.64	1.44	0.38	0.40	0.48	0.63
YEP	Yellow Perch	7.25	1.21	0.40	0.14	0.20	0.28
Total Pounds Fish/Set:			38.52	* Quartiles for Mean Weight			

**Net Catch Summary by Numbers for TN**

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

Number of Sets: 7  
First Set Date: 08/04/2008  
Last Lift Date: 08/07/2008  
Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 42*		
				25%	50%	75%
BLB	Black Bullhead	3	0.43	2.20	17.30	60.46
BLC	Black Crappie	25	3.57	2.36	5.60	15.10
BLG	Bluegill	10	1.43	1.88	10.80	29.50
CCF	Channel Catfish	2	0.29	N/A	N/A	N/A
CAP	Common Carp	10	1.43	1.00	2.06	3.56
NOP	Northern Pike	1	0.14	N/A	N/A	N/A
RKB	Rock Bass	5	0.71	0.29	0.63	1.23
SHR	Shorthead Redhorse	10	1.43	1.19	3.45	6.81
SLR	Silver Redhorse	30	4.29	N/A	N/A	N/A
WAE	Walleye	1	0.14	0.40	0.86	1.94
WHC	White Crappie	1	0.14	2.50	5.29	11.60
WTS	White Sucker	5	0.71	0.28	0.67	2.20
YEB	Yellow Bullhead	3	0.43	0.83	2.43	6.15
Total Fish/Set:			15.14	* 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 42*		
					25%	50%	75%
BLB	Black Bullhead	0.71	0.10	0.24	0.19	0.30	0.50
BLC	Black Crappie	5.97	0.85	0.24	0.17	0.25	0.36
BLG	Bluegill	0.61	0.09	0.06	0.15	0.20	0.30
CCF	Channel Catfish	0.24	0.03	0.12	N/A	N/A	N/A
CAP	Common Carp	53.42	7.63	5.34	2.10	3.55	5.29
NOP	Northern Pike	2.09	0.30	2.09	N/A	N/A	N/A
RKB	Rock Bass	0.72	0.10	0.14	0.20	0.46	0.56
SHR	Shorthead Redhorse	33.77	4.82	3.38	1.16	1.91	2.45
SLR	Silver Redhorse	80.33	11.48	2.68	N/A	N/A	N/A
WAE	Walleye	1.83	0.26	1.83	0.59	1.53	2.56
WHC	White Crappie	0.24	0.03	0.24	0.20	0.30	0.40
WTS	White Sucker	5.75	0.82	1.15	1.14	1.79	2.50
YEB	Yellow Bullhead	1.51	0.22	0.50	0.43	0.56	0.69
Total Pounds Fish/Set:			26.74	* Quartiles for Mean Weight			

**Net Catch Summary by Numbers for STN****Special sampling with trap nets**

Number of Sets: 2  
 First Set Date: 08/05/2008  
 Last Lift Date: 08/06/2008  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 42*		
				25%	50%	75%
BLB	Black Bullhead	2	1.00	N/A	N/A	N/A
BLC	Black Crappie	11	5.50	N/A	N/A	N/A
NOP	Northern Pike	1	0.50	N/A	N/A	N/A
RKB	Rock Bass	3	1.50	N/A	N/A	N/A
SHR	Shorthead Redhorse	2	1.00	N/A	N/A	N/A
SLR	Silver Redhorse	13	6.50	N/A	N/A	N/A
WAE	Walleye	1	0.50	N/A	N/A	N/A
WTS	White Sucker	1	0.50	N/A	N/A	N/A
YEB	Yellow Bullhead	6	3.00	N/A	N/A	N/A
YEP	Yellow Perch	1	0.50	N/A	N/A	N/A
Total Fish/Set:			20.50	* Quartiles for Number Per Set		

**Net Catch Summary by Weight for STN****Special sampling with trap nets**

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 42*		
					25%	50%	75%
BLB	Black Bullhead	0.57	0.28	0.28	N/A	N/A	N/A
BLC	Black Crappie	1.77	0.88	0.16	N/A	N/A	N/A
NOP	Northern Pike	2.65	1.32	2.65	N/A	N/A	N/A
RKB	Rock Bass	0.52	0.26	0.17	N/A	N/A	N/A
SHR	Shorthead Redhorse	6.95	3.47	3.47	N/A	N/A	N/A
SLR	Silver Redhorse	40.20	20.10	3.09	N/A	N/A	N/A
WAE	Walleye	4.85	2.43	4.85	N/A	N/A	N/A
WTS	White Sucker	1.91	0.95	1.91	N/A	N/A	N/A
YEB	Yellow Bullhead	6.64	3.32	1.11	N/A	N/A	N/A
YEP	Yellow Perch	0.06	0.03	0.06	N/A	N/A	N/A
Total Pounds Fish/Set:			33.05	* Quartiles for Mean Weight			

**Electrofishing Catch Summary for EF**

**Standard electrofishing**

**Total run-time for all** 01:05:00  
**Total on-time for all stations:** 01:00:13  
**First Sampling Date:** 06/04/2008  
**Last Sampling Date:** 06/04/2008  
**Daylight Flag:** Yes  
**Target Species:** All adults largemouth bass

Abbr	Species	Summary By Numbers			Summary By Weight (Pounds)			
		Total Number	Number per Hour Run-	On-Time	Total Weight	Lbs per Hour Run-	On-Time	Mean Weight
SMB	Smallmouth Bass	37	34.15	36.87	23.94	22.10	23.86	0.65

Length Frequency Distribution For GN

Standard gill net sets

(Field work conducted between 08/04/2008 and 08/07/2008)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-	-	-	-	1	-
5.00 - 5.49	-	-	-	-	-	-	-	-	-	-	-	5	-
5.50 - 5.99	-	4	-	-	-	-	-	-	-	-	-	2	-
6.00 - 6.49	-	-	-	-	-	1	-	-	-	1	-	-	-
6.50 - 6.99	-	-	-	-	2	-	-	-	-	-	2	1	-
7.00 - 7.49	1	1	-	-	2	-	-	-	-	-	-	2	1
7.50 - 7.99	2	3	-	-	2	-	-	-	-	-	-	1	1
8.00 - 8.49	6	1	-	1	1	-	-	-	-	-	-	-	1
8.50 - 8.99	6	1	-	-	-	-	-	-	-	-	-	2	4
9.00 - 9.49	6	-	-	-	-	-	-	-	-	-	-	-	1
9.50 - 9.99	7	-	-	-	1	-	-	-	-	-	-	2	2
10.00 - 10.49	8	-	-	-	-	-	-	-	-	-	-	1	1
10.50 - 10.99	4	-	-	-	-	-	-	1	-	-	1	1	4
11.00 - 11.49	2	-	-	-	-	-	-	1	-	-	1	1	1
11.50 - 11.99	1	-	-	-	-	-	-	-	-	-	-	-	2
12.00 - 12.99	-	-	-	-	-	1	-	-	-	-	-	4	-
13.00 - 13.99	-	-	-	-	-	-	-	1	1	-	-	-	-
14.00 - 14.99	-	-	-	1	-	-	-	-	-	-	1	-	-
15.00 - 15.99	-	-	-	-	-	2	-	1	-	-	3	-	-
16.00 - 16.99	-	-	-	-	-	2	-	2	-	-	7	-	-
17.00 - 17.99	-	-	-	-	-	1	1	-	-	-	3	-	-
18.00 - 18.99	-	-	-	-	-	5	1	-	1	-	-	-	-
19.00 - 19.99	-	-	-	1	-	4	2	-	3	-	-	-	-
20.00 - 20.99	-	-	1	1	-	3	2	-	5	-	-	-	-
21.00 - 21.99	-	-	3	2	-	-	-	-	1	-	-	-	-
22.00 - 22.99	-	-	-	2	-	-	-	-	1	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	2	-	-	-	-	-	1	-	-	-	-
25.00 - 25.99	-	-	-	2	-	-	-	-	-	-	-	-	-
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>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	43	10	6	10	8	19	6	6	13	1	18	23	18
Min. Length	7.09	5.59	20.39	8.27	6.54	6.34	17.72	10.71	13.66	6.14	6.69	4.80	7.24
Max. Length	11.65	8.90	24.21	25.16	9.76	20.83	20.43	16.18	24.09	6.14	17.99	12.99	11.73
Mean Length	9.45	7.02	22.18	20.07	7.62	17.43	19.28	13.94	20.00	6.14	14.75	8.25	9.65
# Measured	43	10	6	10	8	19	6	6	13	1	18	23	18
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0

**STANDARD LAKE SURVEY REPORT**  
**RE-SURVEY DATED 08/04/2008 FOR DOW NUMBER 71-0013-00**

**DRAFT**

**Length Frequency Distribution For TN**

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

(Field work conducted between 08/04/2008 and 08/07/2008)

	<u>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	3	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	3	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	5	1	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	1	4	2	-	-	-	2	-	-	-	-	1	-
5.50 - 5.99	-	2	-	-	-	-	2	-	-	-	-	-	-
6.00 - 6.49	-	-	-	-	-	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	1	-	-	-	-	-	-	-	-	-	-
7.00 - 7.49	1	2	-	-	1	-	1	-	1	-	-	-	-
7.50 - 7.99	-	4	-	-	1	-	-	-	-	-	1	-	-
8.00 - 8.49	-	4	-	-	-	-	-	-	-	-	-	-	-
8.50 - 8.99	-	1	-	-	-	-	-	-	-	-	-	-	-
9.00 - 9.49	1	-	-	-	-	-	-	-	-	-	-	-	-
9.50 - 9.99	-	-	-	-	-	-	-	-	1	-	-	-	2
10.00 - 10.49	-	-	-	-	-	-	-	-	-	-	-	-	1
10.50 - 10.99	-	2	-	-	-	-	-	-	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	-	-	-	-	-	-	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-	-	-	-	-	-
12.00 - 12.99	-	1	-	-	-	-	-	-	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-	1	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	-	-	-	-	-	-	2	-
15.00 - 15.99	-	-	-	-	-	-	-	1	1	-	-	2	-
16.00 - 16.99	-	-	-	-	-	-	-	-	1	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-	1	6	1	-	-	-
18.00 - 18.99	-	-	-	-	-	-	-	-	4	-	-	-	-
19.00 - 19.99	-	-	-	1	-	-	-	-	6	-	-	-	-
20.00 - 20.99	-	-	-	-	-	-	-	3	9	-	-	-	-
21.00 - 21.99	-	-	-	3	-	-	-	3	1	-	-	-	-
22.00 - 22.99	-	-	-	3	-	-	-	1	-	-	-	-	-
23.00 - 23.99	-	-	-	1	-	1	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	1	-	-	-	-	-	-	-	-	-
25.00 - 25.99	-	-	-	1	-	-	-	-	-	-	-	-	-
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>BLB</u>	<u>BLC</u>	<u>BLG</u>	<u>CAP</u>	<u>CCF</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>WAE</u>	<u>WHC</u>	<u>WTS</u>	<u>YEB</u>
Total	3	25	10	10	2	1	5	10	30	1	1	5	3
Min. Length	5.31	4.80	3.03	19.76	7.09	23.03	5.20	13.70	7.09	17.72	7.72	5.24	9.53
Max. Length	9.21	12.80	6.69	25.47	7.64	23.03	7.20	22.36	21.65	17.72	7.72	15.51	10.24
Mean Length	7.30	7.11	4.28	22.44	7.36	23.03	5.83	19.54	18.33	17.72	7.72	12.98	9.78
# Measured	3	25	10	10	2	1	5	10	30	1	1	5	3
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0

Length Frequency Distribution For STN

Special sampling with trap nets

(Field work conducted between 08/05/2008 and 08/06/2008)

	<u>BLB</u>	<u>BLC</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</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	-	4	-	-	-	-	-	-	-	-
5.50 - 5.99	-	1	-	1	-	-	-	-	-	1
6.00 - 6.49	-	-	-	1	-	-	-	-	-	-
6.50 - 6.99	-	-	-	1	-	-	-	-	-	-
7.00 - 7.49	-	3	-	-	-	-	-	-	-	-
7.50 - 7.99	1	1	-	-	-	-	-	-	1	-
8.00 - 8.49	1	2	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	1	-
13.00 - 13.99	-	-	-	-	-	-	-	-	4	-
14.00 - 14.99	-	-	-	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	1	-	1	-	-
18.00 - 18.99	-	-	-	-	1	1	-	-	-	-
19.00 - 19.99	-	-	-	-	-	5	-	-	-	-
20.00 - 20.99	-	-	-	-	-	5	-	-	-	-
21.00 - 21.99	-	-	-	-	1	1	-	-	-	-
22.00 - 22.99	-	-	-	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	-	1	-	-	-
25.00 - 25.99	-	-	1	-	-	-	-	-	-	-
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>BLB</u>	<u>BLC</u>	<u>NOP</u>	<u>RKB</u>	<u>SHR</u>	<u>SLR</u>	<u>WAE</u>	<u>WTS</u>	<u>YEB</u>	<u>YEP</u>
Total	2	11	1	3	2	13	1	1	6	1
Min. Length	7.83	5.08	25.12	5.87	18.70	17.20	24.09	17.13	7.87	5.59
Max. Length	8.46	8.43	25.12	6.73	21.46	21.42	24.09	17.13	13.94	5.59
Mean Length	8.15	6.58	25.12	6.23	20.08	19.72	24.09	17.13	12.36	5.59
# Measured	2	11	1	3	2	13	1	1	6	1
No Lengths for	0	0	0	0	0	0	0	0	0	0

Length Frequency Distribution For EF

Standard electrofishing

(Field work conducted on 06/04/2008)

	<u>SMB</u>
< 3.00	-
3.00 - 3.49	-
3.50 - 3.99	-
4.00 - 4.49	-
4.50 - 4.99	1
5.00 - 5.49	-
5.50 - 5.99	-
6.00 - 6.49	1
6.50 - 6.99	5
7.00 - 7.49	7
7.50 - 7.99	4
8.00 - 8.49	3
8.50 - 8.99	1
9.00 - 9.49	3
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	2
14.00 - 14.99	1
15.00 - 15.99	2
16.00 - 16.99	3
17.00 - 17.99	-
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>SMB</u>
Total	37
Min. Length	4.96
Max. Length	18.27
Mean Length	9.79
# Measured	37
No Lengths for	0

**Approval Dates And Notices**

Date Approved By Montrose Area Fisheries Supervisor: \_\_\_\_\_

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

**This Draft version of the Standard Lake Survey Report contains preliminary data, and is therefore subject to change at any time.**



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.

## SUBREPORTS WITH NO DATA

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

---

Lake Name: Orono  
DOW Number: 71-0013-00

Survey Type: Re-Survey  
Survey ID Date: 08/04/2008

---

**Survey Status:** Active

The following 9 report components are not included in this report:

1. Surrounding Watershed Characteristics And Shoreline Characteristics
2. Resorts And Campgrounds
3. Erosion And Pollution
4. Fish Diseases And Parasites
5. Laboratory Analysis Of Water Chemistry
6. Length At Capture With Last Incremental Length\*
7. Back-Calculated Lengths
8. Age Class Frequency Distributions
9. Status Of Fishery And Field Notes

\* 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 08/11/2008 may not be reflected in the Distribution tables until 08/12/2008.**