

Fisheries Management

LAKE SURVEY REPORT

DRAFT VERSION

PRELIMINARY DATA (AS OF 03/27/2023)

Lake Name: Spectacle Survey Type: Targeted Survey

DOW Number: 30-0135-00 Survey ID Date: 08/15/2022

TARGETED SURVEY

Electrofishing targeting Largemouth Bass All Ages Gill Netting Trap Netting Water Quality Measurement

Lake Identification

Alternate Lake Name: N/A DNR Sounding Map Number: C2833
Primary Lake Class ID: 32 Alternate Lake Class ID: 29

Lake Location

Primary County: Isanti Nearest Town: Cambridge

Legal Descriptions

Lake Center: Township - 36N Range - 25W Section - 25

PLS Section Lake Center: 3602525

All Legal Descriptions:

Isanti County: Township - 36N Range - 25W Sections - 25, 26, 35, 36

Area Office

Area Name: Hinckley ORG Code: F311
Region Name: Central Region Number: 3

Lake Access

(Information based on Re-Survey dated 08/26/1996)

| Station ID | Ownership | Public Use | Type | Location / Comments |
|------------|-----------|--------------------|----------|---|
| AC - 1 | DNR | Open to Public use | Concrete | State owned access off of Co. Rd. 37 on the south side of the lake; via the point road. Parking for about 10 vehicles w/ trailers. |

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

Lake Characteristics

Lake Area (planimetered acres): 239.60 GIS Shoreline Length (miles): 3.74
GIS Lake Area (acres): 246.19 Maximum Fetch (miles): 0.81
DOW Lake Area (acres): 280.00 Fetch Orientation (degrees): 292
Littoral Area (acres): 157.10 USGS Quad Map Number: P16c
Area in MN (acres): 246.19 USGS Quad 24K GIS Index: 3131

Area in MN (acres): 246.19 Maximum Depth (feet): 51.5 Mean Depth (feet): 8.6



Watershed Characteristics

Major Watershed Minor Watershed

Name: Rum River Name: Green L Bk
Watershed Number: 21 Watershed Number: 76

Watershed size (acres): 1,013,790 Watershed size (acres): 7,376

Surveys and Investigations

Re-Survey: 08/28/2006, 08/26/1996, 08/25/1986.

Population Assessment: 08/19/2013, 08/27/2001, 08/21/1991, 08/16/1982, 09/10/1975.

Special Assessment: 07/15/2014, 07/10/2013, 06/12/2012, 06/24/2011, 06/23/2010, 06/22/2009, 07/09/2008.

External Management Survey: 06/18/2007.

Targeted Survey: 08/25/2022, <u>08/15/2022</u>, 09/17/2020, 08/19/2020.

Water Level History - Readings

| Station ID | Date | Level | Reading (feet) | Reading Type |
|------------|------------|--------|----------------|----------------------|
| GA - 1 | 08/19/2013 | Normal | 1.81 | Direct Gauge Reading |
| | 08/28/2006 | Low | 1.30 | Direct Gauge Reading |

Water Level History - Station Summary

| | Minimum Level | | Maximum Level | | Range | Average | Reading Type | |
|------------|---------------|------------|---------------|------------|--------|--------------|--------------------------|--|
| Station ID | Feet | Date | Feet | Date | (feet) | Level (feet) | (and number of readings) | |
| GA - 1 | 1.30 | 08/28/2006 | 1.81 | 08/19/2013 | 0.51 | 1.56 | Direct Gauge Reading (2) | |

Dissolved Oxygen and Temperature Profile of Lake Water

| Station ID | Sampling Date | Bottom Depth (Feet) | Sample Depth (Feet) | Water Temperature (°F) | Dissolved Oxygen (ppm) |
|------------|------------------|------------------------|------------------------|---------------------------|------------------------|
| WQ - 1 | 08/15/2022 | 45.0 | Surface | 73.8 | 8.0 |
| | | | 2.0 | 74.1 | 8.1 |
| | | | 4.0 | 74.1 | 8.1 |
| | | | 6.0 | 74.1 | 8.2 |
| | | | 8.0 | 74.1 | 8.2 |
| | | | 10.0 | 74.1 | 8.2 |
| | | | 12.0 | 74.1 | 8.2 |
| | | | 14.0 | 74.1 | 8.1 |
| | | | 16.0 | 74.1 | 8.1 |
| | | | 18.0 | 73.9 | 8.1 |
| | | | 20.0 | 73.8 | 7.8 |
| | | | 21.0 | 73.0 | 7.2 |
| | | | 22.0 | 72.7 | 6.7 |
| | | | 23.0 | 71.8 | 5.9 |
| | | | 24.0 | 70.0 | 2.5 |
| | | | 25.0 | 68.2 | 0.9 |
| | | | 26.0 | 66.2 | 0.6 |
| | | | 27.0 | 64.8 | 0.5 |
| | | | 30.0 | 63.0 | 0.5 |
| | | | 35.0 | 54.7 | 0.4 |
| | | | 40.0 | 51.1 | 0.4 |
| | | | 45.0 | 50.2 | 0.3 |
| | | | | | |

Field Measurements of Water Quality

| | | | Secchi | | | | | |
|------------|------------------|------------------------|-----------------|-------------|---------------------|-------------|-------------|---|
| Station ID | Sampling Date | Sample Depth (Feet) | Depth (Feet) | Field pH | Alkalinity (ppm) | Water Color | Color Cause | |
| WQ - 1 | 08/15/2022 | 45.0 | 13.0 | N\A | N/A | Clear | N/A | _ |

Net Catch Summary by Numbers for **GN**

Standard gill net sets

Number of Sets: 6

First Set Date: 08/15/2022 Last Lift Date: 08/18/2022 Target Species: N/A

| Quartiles for | ' Lake | Class | 321 |
|---------------|--------|-------|-----|
|---------------|--------|-------|-----|

| Abbr | Species | Total Fish | Number Per Set | 25% | 50% | 75% |
|------|-----------------|-----------------|----------------|------------|------------------|-------|
| BLC | Black Crappie | 11 | 1.83 | 1.00 | 2.11 | 3.90 |
| BLG | Bluegill | 25 | 4.17 | N/A | N/A | N/A |
| HSF | Hybrid Sunfish | 1 | 0.17 | N/A | N/A | N/A |
| LMB | Largemouth Bass | 22 | 3.67 | 0.40 | 0.80 | 1.62 |
| NOP | Northern Pike | 27 | 4.50 | 3.50 | 6.21 | 8.85 |
| PMK | Pumpkinseed | 3 | 0.50 | N/A | N/A | N/A |
| WAE | Walleye | 11 | 1.83 | 0.50 | 1.25 | 2.33 |
| WTS | White Sucker | 1 | 0.17 | 0.33 | 0.75 | 1.67 |
| YEB | Yellow Bullhead | 180 | 30.00 | 2.10 | 6.00 | 15.83 |
| YEP | Yellow Perch | 4 | 0.67 | 1.00 | 3.00 | 10.28 |
| | | Total Fish/Set: | 47.50 | ¹ Quartile | es for Number Pe | r Set |

Net Catch Summary by Weight for GN

Standard gill net sets

| | | Total Weight | Pounds | Mean | Quartiles | for Lake Clas | s 32¹ |
|------|-----------------|------------------------|---------|---------------------|-----------|-----------------|-------|
| Abbr | Species | (Pounds) | Per Set | Weight ² | 25% | 50% | 75% |
| BLC | Black Crappie | 2.84 | 0.47 | 0.27 | 0.20 | 0.28 | 0.37 |
| BLG | Bluegill | 9.01 | 1.50 | 0.36 | N/A | N/A | N/A |
| HSF | Hybrid Sunfish | 0.31 | 0.05 | 0.31 | N/A | N/A | N/A |
| LMB | Largemouth Bass | 18.02 | 3.00 | 0.83 | 0.50 | 0.81 | 1.30 |
| NOP | Northern Pike | 38.52 | 6.42 | 1.43 | 1.60 | 2.13 | 2.98 |
| PMK | Pumpkinseed | 0.61 | 0.10 | 0.20 | N/A | N/A | N/A |
| WAE | Walleye | 28.46 | 4.74 | 2.59 | 1.72 | 2.60 | 3.60 |
| WTS | White Sucker | 1.82 | 0.30 | 1.82 | 1.74 | 2.15 | 2.70 |
| YEB | Yellow Bullhead | 129.03 | 21.51 | 0.72 | 0.27 | 0.42 | 0.53 |
| YEP | Yellow Perch | 1.60 | 0.27 | 0.53 | 0.10 | 0.12 | 0.17 |
| | | Total Pounds Fish/Set: | 38.37 | | ¹ Quarti | es for Mean Wei | ght |

² Mean Weights are based on measured fish counts only.

Net Catch Summary by Numbers for TN

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

Number of Sets: 18 First Set Date: 05/19/2022

First Set Date: 05/19/2022 Last Lift Date: 08/18/2022 Target Species: N/A

| Quartiles 1 | for Lake | Class | 32¹ |
|-------------|----------|-------|-----|
|-------------|----------|-------|-----|

| Abbr | Species | Total Fish | Number Per Set | 25% | 50% | 75% |
|------|-----------------|-----------------|----------------|------------|-----------------|-------|
| BLB | Black Bullhead | 49 | 2.72 | 0.25 | 0.78 | 1.62 |
| BLC | Black Crappie | 19 | 1.06 | 0.82 | 2.00 | 3.97 |
| BLG | Bluegill | 200 | 11.11 | 9.50 | 23.00 | 57.33 |
| GSF | Green Sunfish | 7 | 0.39 | 0.50 | 0.70 | 0.92 |
| HSF | Hybrid Sunfish | 15 | 0.83 | N/A | N/A | N/A |
| LMB | Largemouth Bass | 7 | 0.39 | 0.28 | 0.74 | 1.38 |
| NOP | Northern Pike | 19 | 1.06 | N/A | N/A | N/A |
| PMK | Pumpkinseed | 28 | 1.56 | 1.50 | 2.81 | 6.75 |
| WAE | Walleye | 3 | 0.17 | 0.25 | 0.33 | 0.50 |
| WTS | White Sucker | 1 | 0.06 | 0.25 | 0.40 | 0.94 |
| YEB | Yellow Bullhead | 53 | 2.94 | 2.68 | 5.67 | 13.50 |
| YEP | Yellow Perch | 2 | 0.11 | 0.33 | 0.70 | 1.25 |
| | | Total Fish/Set: | 22.39 | ¹ Quartile | s for Number Pe | r Set |

Net Catch Summary by Weight for TN

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

| | | Total Weight | Pounds | Mean | Quartiles | for Lake Clas | s 32¹ |
|------|-----------------|------------------------|---------|---------------------|-----------|-----------------|-------|
| Abbr | Species | (Pounds) | Per Set | Weight ² | 25% | 50% | 75% |
| BLB | Black Bullhead | 0.00 | 0.00 | N/A | 0.25 | 0.48 | 0.60 |
| BLC | Black Crappie | 7.87 | 0.44 | 0.41 | 0.20 | 0.30 | 0.48 |
| BLG | Bluegill | 72.92 | 4.05 | 0.36 | 0.11 | 0.14 | 0.19 |
| GSF | Green Sunfish | 1.44 | 0.08 | 0.21 | 0.13 | 0.20 | 0.36 |
| HSF | Hybrid Sunfish | 5.57 | 0.31 | 0.37 | N/A | N/A | N/A |
| LMB | Largemouth Bass | 4.54 | 0.25 | 0.65 | 0.24 | 0.40 | 0.75 |
| NOP | Northern Pike | 14.94 | 0.83 | 0.80 | N/A | N/A | N/A |
| PMK | Pumpkinseed | 7.60 | 0.42 | 0.27 | 0.13 | 0.18 | 0.25 |
| WAE | Walleye | 7.42 | 0.41 | 2.47 | 1.07 | 2.20 | 4.00 |
| WTS | White Sucker | 1.26 | 0.07 | 1.26 | 2.00 | 2.88 | 3.88 |
| YEB | Yellow Bullhead | 28.72 | 1.60 | 0.74 | 0.37 | 0.51 | 0.59 |
| YEP | Yellow Perch | 1.14 | 0.06 | 0.57 | 0.10 | 0.13 | 0.20 |
| | | Total Pounds Fish/Set: | 8.52 | | ¹ Quartil | es for Mean Wei | ght |

² Mean Weights are based on measured fish counts only.



LAKE SURVEY REPORT

TARGETED SURVEY DATED 08/15/2022 FOR DOW NUMBER 30-0135-00

Electrofishing Catch Summary for EF

Standard electrofishing

Number of Stations: 3

Total run-time for all stations: 00:36:00
Total on-time for all stations: 00:35:35
First Sampling Date: 05/31/2022
Last Sampling Date: 05/31/2022

Daylight Sampling: No

Target Species: All ages largemouth bass

| | | Sumi | Summary By Numbers | | | Summary By Weight (pounds) | | | |
|------|-----------------|--------|--------------------|---------|--------|----------------------------|---------|--------|--|
| | | Total | Number per Hour | | Total | Lbs per Hour | | Mean | |
| Abbr | Species | Number | Run-Time | On-Time | Weight | Run-Time | On-Time | Weight | |
| LMB | Largemouth Bass | 29 | 48.33 | 48.90 | 28.89 | 48.15 | 48.71 | 1.00 | |

Length Frequency Distribution for <u>GN</u> (for fish < 36.00 inches)

Standard gill net sets

(Field work conducted between 08/15/2022 and 08/18/2022)

| | • | | | | | | | | | | |
|---|----------------|------|------|------------|------------|------------|------------|------------|---------------------------------------|------------|------------|
| 3.50 - 3.49 | | BLC | BLG | <u>HSF</u> | <u>LMB</u> | <u>NOP</u> | <u>PMK</u> | <u>WAE</u> | <u>WTS</u> | <u>YEB</u> | <u>YEP</u> |
| 3.50 3.99 | | - | - | - | - | - | - | - | - | - | - |
| 4.50 - 4.49 | 3.00 - 3.49 | - | - | - | - | - | - | - | - | - | - |
| 4.50 - 4.99 - <t< td=""><td>3.50 - 3.99</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<> | 3.50 - 3.99 | - | - | - | - | - | - | - | - | - | - |
| 5.00 - 5.49 I <th< td=""><td>4.00 - 4.49</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<> | 4.00 - 4.49 | - | - | - | - | - | - | - | - | - | - |
| 5.50 - 5.99 1 - <t></t> | 4.50 - 4.99 | - | - | - | - | - | - | - | - | - | - |
| 6.00 - 6.49 | 5.00 - 5.49 | - | - | - | - | - | 1 | - | - | - | - |
| 6.50 - 6.99 | 5.50 - 5.99 | 1 | - | - | - | - | - | - | - | - | - |
| 7.00 - 7.49 | 6.00 - 6.49 | 2 | 1 | - | - | - | 1 | - | - | - | - |
| 7.50 - 7.99 | | 2 | 1 | - | - | - | 1 | - | - | - | - |
| 7.50 - 7.99 - 2 - - - 5 4 - 2 - 1 - - - 4 4 - - - - - - 1 4 - - - - - - 1 3 - - - - 1 1 - - 1 1 - - 1 1 - - 1 1 - - - 1 - - - 1 - <t< td=""><td>7.00 - 7.49</td><td>3</td><td>13</td><td>1</td><td>-</td><td>-</td><td>-</td><td>_</td><td>-</td><td>3</td><td>-</td></t<> | 7.00 - 7.49 | 3 | 13 | 1 | - | - | - | _ | - | 3 | - |
| 8.00 - 8.49 - 2 - 1 - - - - 4 4 - - - - - 13 - - - 13 - - - - 11 - - - - 11 - - - - 11 - - - 11 - - - 11 - - - - 11 - | | - | 2 | - | - | - | - | - | _ | 5 | - |
| 8.50 - 8.99 1 66 1 1 1 1 3 21 1 1 1 2 1 1 2 1 1 2 1 1 2 2 30 2 10.00 - 10.99 1 130 1 130 11 11 11 10 1 11 10 10 <td></td> <td>-</td> <td>2</td> <td>-</td> <td>1</td> <td>_</td> <td>-</td> <td>_</td> <td>-</td> <td>4</td> <td>-</td> | | - | 2 | - | 1 | _ | - | _ | - | 4 | - |
| 9.00 - 9.49 1 | | 1 | | - | - | _ | - | _ | - | 13 | - |
| 9.50 - 9.99 | | 1 | _ | - | 3 | _ | _ | _ | _ | 21 | 1 |
| 10.00 - 10.49 | | _ | _ | _ | | _ | _ | _ | _ | | _ |
| 10.50 - 10.99 | | _ | _ | _ | 1 | _ | _ | _ | _ | | _ |
| 11.00 - 11.49 | | _ | _ | _ | | _ | _ | _ | _ | | 2 |
| 11.50 - 11.99 | | 1 | _ | | | _ | _ | _ | | | |
| 12.00 - 12.99 | | | _ | _ | | _ | _ | _ | | | _ |
| 13.00 - 13.99 | | | | | | 1 | | | | | |
| 14.00 - 14.99 | | - | _ | | | | _ | _ | | | _ |
| 15.00 - 15.99 | | - | - | - | | | - | - | | | - |
| 16.00 - 16.99 | | - | - | - | | | - | - | | | - |
| 17.00 - 17.99 | | - | - | - | | | - | - | | - | - |
| 18.00 - 18.99 | | - | - | - | | | - | - | I | - | - |
| 19.00 - 19.99 | | - | - | - | - | | - | - | - | - | - |
| 20.00 - 20.99 | | - | - | - | - | 3 | - | | - | - | - |
| 21.00 - 21.99 | | - | - | - | - | - | - | | - | - | - |
| 22.00 - 22.99 - | | - | - | - | - | - | - | 2 | - | - | - |
| 23.00 - 23.99 - | | - | - | - | - | - | - | - | - | - | - |
| 24.00 - 24.99 - - - 1 - - - - 25.00 - 25.99 - <td></td> <td>-</td> | | - | - | - | - | - | - | - | - | - | - |
| 25.00 - 25.99 | | - | - | - | - | - | - | - | - | - | - |
| 26.00 - 26.99 - < | | - | - | - | - | 1 | - | - | - | - | - |
| 27.00 - 27.99 - < | | - | - | - | - | - | - | - | - | - | - |
| 28.00 - 28.99 - < | | - | - | - | - | - | - | - | - | - | - |
| 29.00 - 29.99 - - - - 1 - < | 27.00 - 27.99 | - | - | - | - | - | - | - | - | - | - |
| 30.00 - 30.99 - < | | - | - | - | - | - | - | - | - | - | - |
| 31.00 - 31.99 | 29.00 - 29.99 | - | - | - | - | 1 | - | - | - | - | - |
| 32.00 - 32.99 | 30.00 - 30.99 | - | - | - | - | - | - | - | - | - | - |
| 33.00 - 33.99 | 31.00 - 31.99 | - | - | - | - | - | - | - | - | - | - |
| 34.00 - 34.99 - | 32.00 - 32.99 | - | - | - | - | - | - | - | - | - | - |
| 35.00 - 35.99 - < | 33.00 - 33.99 | - | - | - | - | - | - | - | - | - | - |
| 35.00 - 35.99 - < | 34.00 - 34.99 | - | - | - | - | - | - | - | - | - | - |
| BLC BLG HSF LMB NOP PMK WAE WTS YEB YEP Total 11 25 1 22 27 3 11 1 179 3 Min. Length 5.98 6.30 7.09 8.19 12.32 5.43 18.74 16.34 7.32 9.41 Max. Length 11.02 8.66 7.09 14.37 37.60 6.73 20.83 16.34 14.96 10.87 Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | | - | - | - | - | - | - | - | - | - | - |
| BLC BLG HSF LMB NOP PMK WAE WTS YEB YEP Total 11 25 1 22 27 3 11 1 179 3 Min. Length 5.98 6.30 7.09 8.19 12.32 5.43 18.74 16.34 7.32 9.41 Max. Length 11.02 8.66 7.09 14.37 37.60 6.73 20.83 16.34 14.96 10.87 Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | = > 36.00 | - | - | - | - | 1 | - | - | - | - | - |
| Total 11 25 1 22 27 3 11 1 179 3 Min. Length 5.98 6.30 7.09 8.19 12.32 5.43 18.74 16.34 7.32 9.41 Max. Length 11.02 8.66 7.09 14.37 37.60 6.73 20.83 16.34 14.96 10.87 Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | | | | | | | | | | | |
| Min. Length 5.98 6.30 7.09 8.19 12.32 5.43 18.74 16.34 7.32 9.41 Max. Length 11.02 8.66 7.09 14.37 37.60 6.73 20.83 16.34 14.96 10.87 Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | | | | | | | | | · · · · · · · · · · · · · · · · · · · | | |
| Max. Length 11.02 8.66 7.09 14.37 37.60 6.73 20.83 16.34 14.96 10.87 Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | | | | | | | | | - | | |
| Mean Length 7.61 7.64 7.09 11.43 17.07 6.15 19.64 16.34 10.71 10.33 # Measured 9 22 1 21 27 3 11 1 178 3 | - | | | | | | | | | | |
| # Measured 9 22 1 21 27 3 11 1 178 3 | Max. Length | | | | | | | | | | |
| # Measured 9 22 1 21 27 3 11 1 178 3 | Mean Length | 7.61 | 7.64 | 7.09 | 11.43 | 17.07 | 6.15 | 19.64 | 16.34 | 10.71 | 10.33 |
| | | 9 | 22 | 1 | 21 | 27 | 3 | 11 | 1 | 178 | 3 |
| 110 Longuio 10 0 0 0 0 1 0 0 0 1 1 | No Lengths for | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |

Length Frequency Distribution for <u>GN</u> (for fish ≥ 36.00 inches)

Standard gill net sets

(Field work conducted between 08/15/2022 and 08/18/2022)

| . 00 00 | <u>BLC</u> 11 | <u>BLG</u> 25 | HSF | <u>LMB</u> 22 | <u>NOP</u> 26 | <u>РМК</u> 3 | WAE | WTS | <u>YEB</u> 180 | <u>YEP</u> 3 |
|----------------|------------------|------------------|------------|------------------|---------------|-----------------|-------|------------|-------------------|--------------|
| < 36.00 | | | 1 | | | | 11 | 1 | | |
| 36.00 - 36.99 | - | - | - | - | - 1 | - | - | - | - | - |
| 37.00 - 37.99 | - | - | - | - | ' | - | - | - | - | - |
| 38.00 - 38.99 | - | - | - | - | - | - | - | - | - | - |
| 39.00 - 39.99 | - | - | - | - | - | - | - | - | - | - |
| 40.00 - 40.99 | - | - | - | - | - | - | - | - | - | - |
| 41.00 - 41.99 | - | - | - | - | - | - | - | - | - | - |
| 42.00 - 42.99 | - | - | - | - | - | - | - | - | - | - |
| 43.00 - 43.99 | - | - | - | - | - | - | - | - | - | - |
| 44.00 - 44.99 | - | - | - | - | - | - | - | - | - | - |
| 45.00 - 45.99 | - | - | - | - | - | - | - | - | - | - |
| 46.00 - 46.99 | - | - | - | - | - | - | - | - | - | - |
| 47.00 - 47.99 | - | - | - | - | - | - | - | - | - | - |
| 48.00 - 48.99 | - | - | - | - | - | - | - | - | - | - |
| 49.00 - 49.99 | - | - | - | - | - | - | - | - | - | - |
| 50.00 - 50.99 | - | - | - | - | - | - | - | - | - | - |
| 51.00 - 51.99 | - | - | - | - | - | - | - | - | - | - |
| 52.00 - 52.99 | - | - | - | - | - | - | - | - | - | - |
| 53.00 - 53.99 | - | - | - | - | - | - | - | - | - | - |
| 54.00 - 54.99 | - | - | - | - | - | - | - | - | - | - |
| 55.00 - 55.99 | - | - | - | - | - | - | - | - | - | - |
| 56.00 - 56.99 | - | - | - | - | - | - | - | - | - | - |
| 57.00 - 57.99 | - | - | - | - | - | - | - | - | - | - |
| 58.00 - 58.99 | - | - | - | - | - | - | - | - | - | - |
| 59.00 - 59.99 | - | - | - | - | - | - | - | - | - | - |
| 60.00 - 60.99 | - | - | - | - | - | - | - | - | - | - |
| 61.00 - 61.99 | - | - | - | - | - | - | - | - | - | - |
| 62.00 - 62.99 | - | - | - | - | - | - | - | - | - | - |
| 63.00 - 63.99 | - | - | - | - | - | - | - | - | - | - |
| 64.00 - 64.99 | - | - | - | - | - | - | - | - | - | - |
| 65.00 - 65.99 | - | - | - | - | - | - | - | - | - | - |
| 66.00 - 66.99 | - | - | - | - | - | - | - | - | - | - |
| 67.00 - 67.99 | - | - | - | - | - | - | - | - | - | - |
| 68.00 - 68.99 | - | - | - | - | - | - | - | - | - | - |
| 69.00 - 69.99 | - | - | - | - | - | - | - | - | - | - |
| 70.00 - 70.99 | - | - | - | - | - | - | - | - | - | - |
| 71.00 - 71.99 | - | - | - | - | - | - | - | - | - | - |
| 72.00 - 72.99 | - | - | - | - | - | - | - | - | - | - |
| 73.00 - 73.99 | - | - | - | - | - | - | - | - | - | - |
| 74.00 - 74.99 | - | - | _ | - | - | - | - | - | _ | _ |
| 75.00 - 75.99 | - | - | - | _ | _ | - | - | - | - | - |
| 76.00 - 76.99 | - | - | - | _ | _ | - | - | - | - | - |
| 77.00 - 77.99 | - | - | _ | - | - | - | - | - | _ | _ |
| = > 78.00 | - | - | _ | - | - | - | - | - | _ | _ |
| | | | | | | | | | | |
| | BLC | BLG | <u>HSF</u> | <u>LMB</u> | NOP | <u>PMK</u> | WAE | <u>WTS</u> | YEB | YEP |
| Total | 11 | 25 | 1 | 22 | 27 | 3 | 11 | 1 | 180 | 3 |
| Min. Length | 5.98 | 6.30 | 7.09 | 8.19 | 12.32 | 5.43 | 18.74 | 16.34 | 7.32 | 9.41 |
| Max. Length | 11.02 | 8.66 | 7.09 | 14.37 | 37.60 | 6.73 | 20.83 | 16.34 | 14.96 | 10.87 |
| Mean Length | 7.61 | 7.64 | 7.09 | 11.43 | 17.07 | 6.15 | 19.64 | 16.34 | 10.71 | 10.33 |
| # Measured | 9 | 22 | 1 | 21 | 27 | 3 | 11 | 1 | 178 | 3 |
| No Lengths for | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| | _ | | | | | _ | | | | _ |

Length Frequency Distribution for TN

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

(Field work conducted between 05/19/2022 and 08/18/2022)

| | BLC | BLG | <u>GSF</u> | <u>HSF</u> | <u>LMB</u> | NOP | <u>PMK</u> | WAE | WTS | <u>YEB</u> | <u>YEP</u> |
|----------------|-------|------|-----------------|------------|------------|-------|------------|------------|------------|------------|------------|
| < 3.00 | - | - | - | - | - | - | - | - | - | - | - |
| 3.00 - 3.49 | - | 1 | - | - | - | - | - | - | - | - | - |
| 3.50 - 3.99 | - | 8 | - | 1 | - | - | - | - | - | - | - |
| 4.00 - 4.49 | - | 4 | - | 1 | - | - | 4 | - | - | - | - |
| 4.50 - 4.99 | - | 4 | 2 | 3 | - | - | - | - | - | - | - |
| 5.00 - 5.49 | - | 5 | - | - | 1 | - | - | - | - | - | - |
| 5.50 - 5.99 | - | 4 | 2 | - | - | - | 3 | - | - | - | - |
| 6.00 - 6.49 | - | 8 | - | 1 | - | - | 4 | - | - | - | - |
| 6.50 - 6.99 | - | 10 | - | - | - | - | 2 | - | - | - | - |
| 7.00 - 7.49 | - | 18 | 1 | - | - | - | 9 | - | - | - | - |
| 7.50 - 7.99 | 4 | 45 | 2 | 2 | 2 | - | 5 | - | - | 9 | - |
| 8.00 - 8.49 | 3 | 67 | - | 2 | _ | - | 1 | - | _ | 7 | - |
| 8.50 - 8.99 | 3 | 22 | - | 4 | 1 | 1 | - | - | _ | 7 | 1 |
| 9.00 - 9.49 | 3 | 3 | - | 1 | _ | - | _ | - | _ | 3 | - |
| 9.50 - 9.99 | 4 | _ | - | _ | _ | _ | _ | _ | _ | 8 | _ |
| 10.00 - 10.49 | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8 | _ |
| 10.50 - 10.99 | 3 | _ | _ | _ | _ | _ | _ | _ | _ | 1 | _ |
| 11.00 - 11.49 | - | _ | _ | _ | _ | 1 | _ | _ | _ | 1 | _ |
| 11.50 - 11.49 | _ | _ | _ | _ | _ | | _ | _ | _ | 1 | 1 |
| 12.00 - 12.99 | _ | _ | _ | _ | 1 | _ | _ | _ | _ | 5 | |
| 13.00 - 13.99 | _ | _ | _ | _ | 2 | 4 | _ | _ | _ | 3 | _ |
| 14.00 - 14.99 | _ | _ | _ | _ | _ | 5 | _ | _ | 1 | - | _ |
| | _ | _ | _ | _ | _ | - | _ | 1 | | _ | _ |
| 15.00 - 15.99 | _ | - | _ | _ | _ | 4 | _ | | _ | _ | _ |
| 16.00 - 16.99 | - | - | - | - | - | 1 | - | - | - | - | - |
| 17.00 - 17.99 | - | - | - | - | - | 1 | - | 1 | - | - | - |
| 18.00 - 18.99 | - | - | - | - | - | 1 | - | 1 | - | - | - |
| 19.00 - 19.99 | - | - | - | - | - | 1 | - | - | - | - | - |
| 20.00 - 20.99 | - | - | - | - | - | 1 | - | - | - | - | - |
| 21.00 - 21.99 | - | - | - | - | - | - | - | - | - | - | - |
| 22.00 - 22.99 | - | - | - | - | - | - | - | 1 | - | - | - |
| 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 | - | - | - | - | - | - | - | - | - | - | |
| | BLC | BLG | GSF | HSF | <u>LMB</u> | NOP | <u>PMK</u> | WAE | WTS | YEB | YEP |
| Tatal | 20 | 199 | <u>331</u> 7 | 15 | 7 | 19 | 28 | 3 | <u>w13</u> | 53 | 2 |
| Total | 7.56 | 3.35 | 4.57 | 3.74 | 5.16 | 8.74 | 4.02 | ა 15.47 | 14.49 | 7.80 | 8.74 |
| Min. Length | | | | | | | | | | | |
| Max. Length | 10.75 | 9.45 | 7.68 | 9.37 | 13.90 | 20.04 | 8.31 | 22.68 | 14.49 | 13.90 | 11.93 |
| Mean Length | 8.98 | 7.49 | 6.24 | 6.97 | 9.84 | 15.30 | 6.57 | 18.90 | 14.49 | 10.69 | 10.33 |
| # Measured | 18 | 199 | 7 | 15 | 7 | 18 | 28 | 3 | 1 | 22 | 2 |
| No Lengths for | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 31 | 0 |

Length Frequency Distribution for EF

Standard electrofishing

(Field work conducted between 05/31/2022 and 05/31/2022)

| (I ICIG WOLK C | Jiluucieu |
|--------------------------------|------------|
| | <u>LMB</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 6.50 - 6.99 | _ |
| 7.00 - 7.49 | _ |
| 7.50 - 7.99 | _ |
| 8.00 - 8.49 | - |
| 8.50 - 8.99 | - |
| 9.00 - 9.49 | 2 |
| 9.50 - 9.99 | 4 |
| 10.00 - 10.49 | - |
| 10.50 - 10.99 | - |
| 11.00 - 11.49 | 1 |
| 11.50 - 11.99 | 3 |
| 12.00 - 12.99 | 11 |
| 13.00 - 13.99 | 6 1 |
| 14.00 - 14.99 | - |
| 15.00 - 15.99 16.00 - 16.99 | 1 |
| 17.00 - 17.99 | |
| 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 - 31.99 | - |
| 33.00 - 33.99 | _ |
| 34.00 - 34.99 | _ |
| 35.00 - 35.99 | - |
| = > 36.00 | - |
| | |
| | LMB |

| | <u>LMB</u> |
|----------------|------------|
| Total | 29 |
| Min. Length | 9.13 |
| Max. Length | 16.34 |
| Mean Length | 12.13 |
| # Measured | 29 |
| No Lengths for | 0 |
| | |

Age Class Frequency Distribution

| Species | | | | | Number of Fish in Year Class ('yy) and Age Class | | | | | | | | | | | | | | |
|----------------|-------------|------------|---------|-----|---|-----|----|---|---|---|---|---|----|----|------|-----|------|----|-----|
| & SS | Nu | ımber of F | ish (2) | '22 | 2 '21 '20 '19 '18 '17 '16 '15 '14 '13 '12 '11 '10 '09 '08 | | | | | | | | | | | '08 | <'08 | | |
| Type (1) | Aged | Keyed | Unaged | 0 | _1_ | _2_ | 3 | 4 | 5 | 6 | 7 | 8 | 9_ | 10 | _11_ | 12 | _13 | 14 | 15+ |
| Northern F | <u>Pike</u> | | | | | | | | | | | | | | | | | | |
| GN | 24 | 2 | 1 | 0 | 1 | 13 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| <u>Walleye</u> | | | | | | | | | | | | | | | | | | | |
| GN | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |

(1) Key to Sampling Station (SS) Type abbreviations:

GN = Standard gill net sets

(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.



Approval Dates And Notices

| Date Approved By Hinckley Area Fisheries Supervisor: | |
|--|--|
| Date Approved By Central Region Fisheries Manager: | |

This **DRAFT VERSION** of the Lake Survey Report contains preliminary data (as of 03/27/2023), and is therefore subject to change at any time.



FISHERIES

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.

REPORT OVERVIEW - FOR OFFICE USE ONLY

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

Lake Name: Spectacle Survey Type: Targeted Survey

DOW Number: 30-0135-00 Survey ID Date: 08/15/2022

Electrofishing targeting Largemouth Bass All Ages, Gill Netting, Trap Netting, Water Quality Measurement

Survey Status: Field Work Complete

The following 23 (of 34) report components are not included in this Lake Survey Report:

- 1. Current Water Level
- 2. Benchmark And Gauge Descriptions / Locations
- 3. Water Level History1
- 4. Lake Inlets
- 5. Additional Inlet Information
- 6. Lake Outlets
- 7. Additional Outlet Information
- 8. Water Control Structure (Dam)
- Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations²
- 10. Resorts And Campgrounds
- 11. Fish Spawning Conditions
- 12. Erosion And Pollution
- 13. Fish Diseases And Parasites
- 14. Aquatic Vegetation And Shoalwater Substrates
- 15. Water Quality (Winter Observations) (added to revision 01/21/2010)
- 16. Laboratory Analysis Of Water Chemistry
- 17. Zooplankton Sampling (added to revision 20221130)
- 18. Catch Summary (Pre-1993 Format) (added to revision 20201001)
- 19. Length At Capture With Last Incremental Length*
- 20. Back-Calculated Lengths
- 21. Other Species (added to revision 03/24/2009)
- 22. Status Of Fishery And Field Notes
- 23. Survey Attachments (added to revision 20150622)
- ¹ Water Level History report: This data has not yet been migrated into the Fisheries LSM database. On 01/08/2009, two additional Water Level History report components (Readings and Station Summary) were added.
- ² Effective 03/25/2014, the Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations report component was modified to be included in the Lake Survey report if it did not include any Watershed and Shoreline characteristics and only consisted of Riparian Landscape Observations.
- * 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 before noon on 03/27/2023 may not be reflected in the Distribution tables until after 12:30 pm on 03/27/2023.

FOR OFFICE USE ONLY: As of revision 20150622, this page is automatically suppressed on signed versions of this report (area supervisor, region manager, research biologist, research supervisor, program staff, or program manager signed).