



Minnesota Department of Natural Resources  
Fisheries Management



STANDARD LAKE SURVEY REPORT

**DRAFT VERSION - PRELIMINARY DATA (AS OF 07/25/2014)**

Lake Name: Bean

Survey Type: Population Assessment

DOW Number: 17-0054-00

Survey ID Date: 07/21/2014

**Lake Identification**

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

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

**Lake Location**

Primary County: Cottonwood

Nearest Town: Storden

**Legal Descriptions**

Lake Center: Township - 107N Range - 38W Section - 14  
PLS Section Lake Center: 10703814

**All Legal Descriptions:**

Cottonwood County: Township - 107N Range - 38W Section - 14

**Area Office**

Area Name: Windom  
Region Name: Southern

ORG Code: F418  
Region Number: 4

**Lake Access**

(Information based on Population Assessment dated 08/01/1994)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	STATE OWNED PUBLIC ACCESS ON WEST SIDE OF LAKE.

**Lake Characteristics**

Lake Area (planimetered acres): 141.00	GIS Shoreline Length (miles): 1.92
GIS Lake Area (acres): 162.09	Maximum Fetch (miles): 0.60
DOW Lake Area (acres): 141.00	Fetch Orientation (degrees): 360
Littoral Area (acres): 162.09	USGS Quad Map Number: V08d
Area in MN (acres): 162.09	USGS Quad 24K GIS Index: 4316
Maximum Depth (feet): 12.0	
Mean Depth (feet): N/A	

**Watershed Characteristics**

**Major Watershed**

Name: Cottonwood River  
Watershed Number: 29  
Watershed size (acres): 840,782

**Minor Watershed**

Name: Highwater Cr  
Watershed Number: 80  
Watershed size (acres): 8,526

**Surveys And Investigations**

Re-Survey: 07/27/1998, 08/02/1989.  
 Population Assessment: 07/21/2014, 08/18/2008, 07/22/2002, 08/01/1994.  
 Special Assessment: 07/21/2014, 07/28/1948.  
 Winter Kill Assessment: 04/15/2014.  
 Dissolved Oxygen Check: 12/31/2013, 01/02/2013, 01/11/2012, 12/28/2010, 01/04/2010.

**Current Water Level**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/23/2014	High	-8.00	Above or below Benchmark

**Benchmark and Gauge Descriptions / Locations**

Station ID	Location Description
BM - 1	top of cement wall of old roller rink on south shore.

**Water Level History - Readings**

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	07/23/2014	High	-8.00	Above or below Benchmark
	08/19/2008	N/A	-4.00	Above or below Benchmark

**Water Level History - Station Summary**

Station ID	Minimum Level		Maximum Level		Range (feet)	Average Level (feet)	Reading Type (and number of readings)
	Feet	Date	Feet	Date			
BM - 1	-8.00	07/23/2014	-4.00	08/19/2008	4.00	-6.00	Above or below Benchmark (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	07/23/2014	N/A	Surface	75.7	10.4
			2.0	75.7	10.5
			4.0	75.7	10.2
			6.0	75.7	10.1
			8.0	75.7	8.6
			10.0	75.6	7.7
			10.2	75.6	6.2

**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	07/23/2014	Surface	1.7	8.81	280	Green	Algae

**Net Catch Summary by Numbers for GN**

Standard gill net sets

Number of Sets: 2  
 First Set Date: 07/21/2014  
 Last Lift Date: 07/23/2014  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	619	309.50	30.34	75.58	150.62
CAP	Common Carp	2	1.00	1.00	3.33	13.75
WAE	Walleye	15	7.50	2.28	6.83	18.06
YEP	Yellow Perch	42	21.00	2.65	8.00	25.00
Total Fish/Set:			339.00	* 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 43*		
					25%	50%	75%
BLB	Black Bullhead	88.12	44.06	0.14	0.17	0.26	0.39
CAP	Common Carp	5.40	2.70	2.70	0.81	1.98	3.70
WAE	Walleye	32.13	16.07	2.14	1.01	1.53	2.30
YEP	Yellow Perch	6.19	3.10	0.15	0.13	0.21	0.31
Total Pounds Fish/Set:			65.92	* Quartiles for Mean Weight			

**Net Catch Summary by Numbers for TN**

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

Number of Sets: 9  
 First Set Date: 07/21/2014  
 Last Lift Date: 07/24/2014  
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	305	33.89	11.50	42.00	132.61
BLC	Black Crappie	18	2.00	1.17	4.88	20.50
CAP	Common Carp	1	0.11	1.00	2.44	5.51
OSS	Orangespotted Sunfish	5	0.56	N/A	N/A	N/A
WAE	Walleye	11	1.22	0.50	1.33	2.95
YEB	Yellow Bullhead	1	0.11	0.50	1.13	2.50
YEP	Yellow Perch	26	2.89	0.33	1.37	3.76
Total Fish/Set:			40.78	* 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 43*		
					25%	50%	75%
BLB	Black Bullhead	45.64	5.07	0.15	0.18	0.28	0.40
BLC	Black Crappie	15.52	1.72	0.86	0.22	0.34	0.50
CAP	Common Carp	2.43	0.27	2.43	1.42	2.92	4.58
OSS	Orangespotted Sunfish	0.17	0.02	0.03	N/A	N/A	N/A
WAE	Walleye	46.89	5.21	4.26	0.82	1.44	2.28
YEB	Yellow Bullhead	0.31	0.03	0.31	0.31	0.48	0.67
YEP	Yellow Perch	4.03	0.45	0.15	0.11	0.18	0.30
Total Pounds Fish/Set:			12.77	* Quartiles for Mean Weight			

**Length Frequency Distribution For GN**

**Standard gill net sets**

(Field work conducted between 07/21/2014 and 07/23/2014)

	<u>BLB</u>	<u>CAP</u>	<u>WAE</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	-	-	-	-
5.50 - 5.99	3	-	-	24
6.00 - 6.49	67	-	-	11
6.50 - 6.99	431	-	-	1
7.00 - 7.49	117	-	-	-
7.50 - 7.99	-	-	-	-
8.00 - 8.49	-	-	-	1
8.50 - 8.99	-	-	-	3
9.00 - 9.49	-	-	-	1
9.50 - 9.99	-	-	-	-
10.00 - 10.49	-	-	-	-
10.50 - 10.99	-	-	-	1
11.00 - 11.49	-	-	-	-
11.50 - 11.99	-	-	-	-
12.00 - 12.99	-	-	5	-
13.00 - 13.99	-	-	1	-
14.00 - 14.99	-	-	-	-
15.00 - 15.99	-	1	-	-
16.00 - 16.99	-	-	-	-
17.00 - 17.99	-	-	1	-
18.00 - 18.99	-	-	3	-
19.00 - 19.99	-	1	2	-
20.00 - 20.99	-	-	-	-
21.00 - 21.99	-	-	2	-
22.00 - 22.99	-	-	-	-
23.00 - 23.99	-	-	-	-
24.00 - 24.99	-	-	-	-
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>CAP</u>	<u>WAE</u>	<u>YEP</u>
Total	618	2	15	42
Min. Length	5.83	15.00	12.28	5.55
Max. Length	7.28	19.17	25.43	10.94
Mean Length	6.73	17.09	17.08	6.41
# Measured	148	2	15	40
No Lengths for	471	0	0	2

**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

**Length Frequency Distribution For TN**

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

(Field work conducted between 07/21/2014 and 07/24/2014)

	<u>BLB</u>	<u>BLC</u>	<u>CAP</u>	<u>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	2	-	-	-
3.50 - 3.99	-	-	-	3	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-
5.00 - 5.49	1	-	-	1	-	-	-
5.50 - 5.99	13	-	-	-	-	-	13
6.00 - 6.49	66	-	-	-	-	-	3
6.50 - 6.99	197	-	-	-	-	-	3
7.00 - 7.49	28	-	-	-	-	-	-
7.50 - 7.99	-	-	-	-	-	-	1
8.00 - 8.49	-	-	-	-	-	1	3
8.50 - 8.99	-	-	-	-	-	-	4
9.00 - 9.49	-	-	-	-	-	-	-
9.50 - 9.99	-	1	-	-	-	-	-
10.00 - 10.49	-	1	-	-	-	-	-
10.50 - 10.99	-	6	-	-	-	-	-
11.00 - 11.49	-	6	-	-	-	-	-
11.50 - 11.99	-	3	-	-	-	-	-
12.00 - 12.99	-	1	-	-	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-	-	-
18.00 - 18.99	-	-	1	-	2	-	-
19.00 - 19.99	-	-	-	-	1	-	-
20.00 - 20.99	-	-	-	-	1	-	-
21.00 - 21.99	-	-	-	-	1	-	-
22.00 - 22.99	-	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	3	-	-
25.00 - 25.99	-	-	-	-	2	-	-
26.00 - 26.99	-	-	-	-	1	-	-
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>OSS</u>	<u>WAE</u>	<u>YEB</u>	<u>YEP</u>
Total	305	18	1	6	11	1	27
Min. Length	5.28	9.80	18.07	3.43	18.35	8.35	5.51
Max. Length	7.44	12.13	18.07	5.35	26.77	8.35	8.94
Mean Length	6.62	11.04	18.07	4.02	22.65	8.35	6.78
# Measured	132	18	1	4	11	1	21
No Lengths for	173	0	0	1	0	0	5

**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

**Other Species**

Gear Type (1)	Other Species (Gender) (2)	Total Num	Number Measured	Length (inches) Min - Mean - Max	Number Weighed	Weight (pounds) Min - Mean - Max
TN	Painted Turtle	121	0	N/A	0	N/A
	Snapping Turtle	9	9	10.83 - 12.93 - 14.92	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.

**Approval Dates And Notices**

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

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

**This DRAFT VERSION of the Standard Lake Survey Report contains preliminary data (as of 07/25/2014), 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.



## REPORT OVERVIEW - FOR OFFICE USE ONLY

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

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**Lake Name: Bean**

**Survey Type: Population Assessment**

**DOW Number: 17-0054-00**

**Survey ID Date: 07/21/2014**

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**Survey Status:** Field Work Complete

The following 18 (of 31) report components are not included in this report:

1. Water Level History<sup>1</sup>
2. Lake Inlets
3. Additional Inlet Information
4. Lake Outlets
5. Additional Outlet Information
6. Water Control Structure (Dam)
7. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations<sup>2</sup>
8. Resorts And Campgrounds
9. Fish Spawning Conditions
10. Erosion And Pollution
11. Fish Diseases And Parasites
12. Aquatic Vegetation And Shoalwater Substrates
13. Laboratory Analysis Of Water Chemistry
14. Length At Capture With Last Incremental Length\*
15. Back-Calculated Lengths
16. Age Class Frequency Distributions
17. Status Of Fishery And Field Notes
18. Water Quality (Winter Observations) (added to revision 01/21/2010)

<sup>1</sup> 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.

<sup>2</sup> Effective 03/25/2014, the Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations report component was modified to be included in the Standard 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 07/25/2014 may not be reflected in the Distribution tables until after 12:30 pm on 07/25/2014.**