

SECTION II

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
ENVIRONMENTAL MONITORING PROGRAM  
2015 ANNUAL REPORT

SUMMARY OF THE 2015 FISH POPULATION STUDY

Report  
by  
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Environmental Services  
Water Quality Department



## SUMMARY OF THE 2015 FISH POPULATION STUDY

### INTRODUCTION

To fulfill part of the continuing environmental monitoring requirements of the Prairie Island Nuclear Generating Plant, (PINGP), the Mississippi River fisheries population was sampled near Red Wing, Minnesota, May through October, 2015. The study area extends from 3.6 miles upstream of the plant (River mile 802) to 10.8 miles downstream of the plant (River mile 787.5), (Figure 1). The original objective of the study was to “determine existing ecological characteristics before plant operation and to assess any significant changes to the aquatic environment after operation” (NSP 1972). The objective was changed slightly after the plant became operational in 1973; to “determine environmental effects of the PINGP on the fish community in the Mississippi River and its backwaters” (Hawkinson 1973). Presently, the objective is to monitor and assess the status of the fishery in the vicinity of the PINGP (Mueller 1994). Parameters analyzed include species composition, length-weight regressions, length-frequency distributions, and catch per unit effort (CPUE). Starting in 2012, fish species, length and weights were entered into the Minnesota Department of Natural Resources (MNDNR) fisheries software program. The data was then downloaded into the MNDNR database. This annual report includes the Standard Lake Survey Reports created by the MNDNR (Attachment 1 and 2) for Mississippi River Pools 3 and 4. Pool 3 is a combination of sectors 1 and 2, while Pool 4 is a combination of sectors 3 and 4.

### METHODS AND MATERIALS

Fish were collected using a Smith-Root SR-18 Electrofishing boat equipped with a 5.0 GPP electrofishing unit (Figure 6). The power source was a 5.0 GPP generator. The 5000 watt generator has a maximum output of 16 amps, and a range of 0-1000 volts. The generator has the capability to be either pulsed AC or DC with a pulse frequency of 7.5, 15, 30, 60, and 120 Hz. The anode consists of two umbrella arrays, each with six dropper cables. The 18 foot boat and dropper cables hung from the front of the boat serve as the cathode. Collection occurred during daylight hours with a pulsed direct current. Due to the constantly changing river conditions, Electrofisher output was varied to enhance the effectiveness.

Sampling was done monthly, May through October, within four established sectors of the study area (Figures 1-5). The runs within each sector are similar to previous years sampling to ensure a similar set of relative data indices. At the end of each “run”, the elapsed shocking time was

recorded from a digital timer, which only tallied the seconds that the electrical field was energized. A run was terminated after approximately 450 seconds shocking time or when the end of the prescribed run was reached.

Stunned fish were captured with one-inch stretch mesh landing nets equipped with eight-foot insulated handles. Fish were placed in live-wells, supplied with river water constantly, until the end of each run. At the end of each run fish were identified, measured to the nearest millimeter (total length), weighed to the nearest 10 grams, and released. Parameters used to describe the fisheries include species composition, length-weight regressions, total numbers of each species collected, length-frequency distributions, and catch per unit effort (CPUE). It is assumed that population dynamics and spatial distribution is represented by CPUE.

Electrofishing CPUE was computed as numbers of fish per hour. Length frequency distributions are reported for all fish species. Length-weight relationships were calculated using the length-weight formula:

$$\log W = \log a + b \log L,$$

where  $W$  is the weight in grams,  $a$  is the  $y$  axis intercept,  $b$  is the slope of the regression line, and  $L$  is the total length in millimeters.

## RESULTS

Initial PINGP preoperational annual environmental reports simply listed all data collected without discussion or analysis (NSP 1972). Individual species were not discussed, due to the amount of data collected during initial sampling efforts. This report will include, total number of each species, mean length and length range, CPUE comparison between Mississippi River Pools 3 and 4, length frequency distribution, and length weight regressions.

Electrofishing collection methods changed before the 1982 sampling season. The mesh size of the dip nets was increased to one inch stretch mesh. The larger mesh size enabled small adult fish and some young of the year fish of certain species to avoid collection. Currently, individual gizzard shad, freshwater drum, and white bass less than 160 mm are not collected. Also, logperch and cyprinids (other than carp) are no longer collected, due to their small size (Donkers 1987). Therefore, a direct comparison of electrofishing CPUE prior to 1982 is inappropriate to later years.

Species collected in 2015 are compared to previous years in Table 1. A total of 5,292 fish, comprising 38 species, was collected in the 2015 survey (Table 2).

All species collected in 2015 are ranked according to electrofishing CPUE and listed in Table 2. Table 3 lists the length-weight regressions calculated for each species.

All other parameters can be found in Attachments 1 and 2 (MNDNR Standard Lake Survey Report).

The top three abundant species, based on CPUE, was determined for each river pool (Table 2).

Pool 3;	freshwater drum, shorthead redhorse, silver redhorse
Pool 4;	freshwater drum, white bass, carp
Overall CPUE Average;	freshwater drum, white bass, shorthead redhorse

## DISCUSSION

When dealing with a large river environment, a high degree of natural variability exists in habitat conditions and therefore, in fish distribution. Palmquist (1982) proposed the wide range in species abundance between study areas was largely due to habitat preferences of a species rather than PINGP induced. Differences in collection efficiency and year class strengths may also explain this variability.

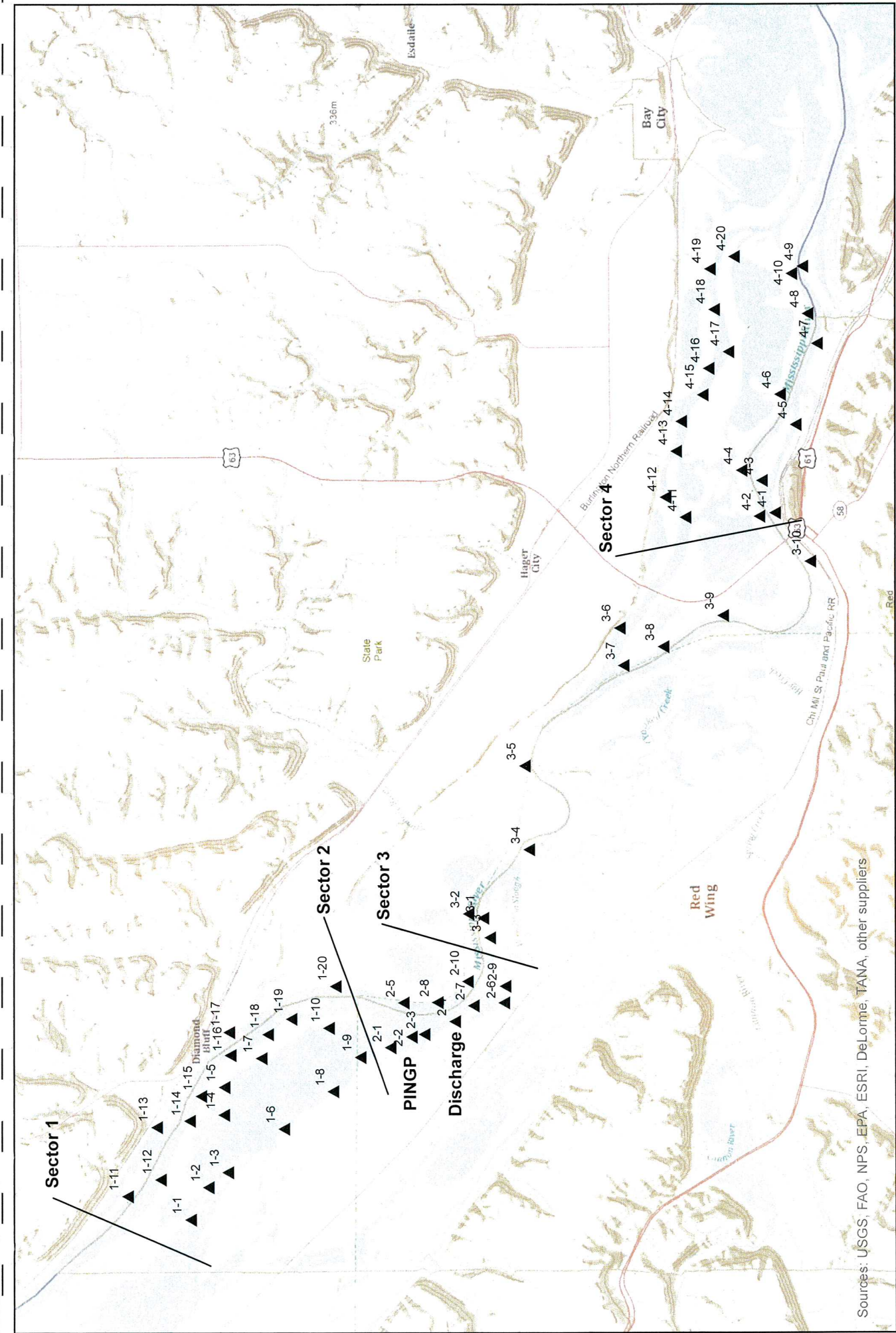
## GENERAL

The ten most abundant species collected during 2015 in descending order, based on average CPUE for both pools combined were: 1) freshwater drum, 2) white bass, 3) shorthead redhorse, 4) carp, 5) smallmouth bass, 6) silver redhorse, 7) sauger, 8) walleye, 9) largemouth bass, and 10) bluegill (Table 2).

Total average CPUE for all species and pools combined for 2015 was 117.28 fish/hour, an increase from 2014 (107.85 fish/hr) (Table 2).

## LITERATURE CITED

- Donkers, C. A. 1987. Summary of the 1987 fish population study. IN: Prairie Island Nuclear Generating Plant Environmental Monitoring Program 1987 Annual Report. Northern States Power Company, Minneapolis, MN.
- Hawkinson, B. W. 1973. 1973 Fish Population Study Progress Report of the Mississippi River Near Prairie Island July 1973-February 1974. IN: Environmental Monitoring and Ecological Studies Program, Prairie Island Nuclear Generating Plant, 1973 Annual Report. Northern States Power Company, Minneapolis, MN.
- Mueller, K. N. 1994. Summary of the 1994 fish population study. IN: Prairie Island Nuclear Generating Plant Environmental Monitoring Program 1994 Annual Report. Northern States Power Company, Minneapolis, MN.
- NSP. 1972. Environmental Monitoring and Ecological Studies Program for the Prairie Island Nuclear Generating Plant Near Red Wing, Minnesota. Prepared by: engineering Vice Presidential Staff Department, Northern States Power Company. February 1, 1970, revised May 1, 1972. Northern States Power Company, Minneapolis, MN.
- Palmquist, P. R. 1982. Summary of the 1982 fish population study. IN: Prairie Island Nuclear Generating Plant Environmental Monitoring Program 1982 Annual Report. Northern States Power Company, Minneapolis, MN.



Sources: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers



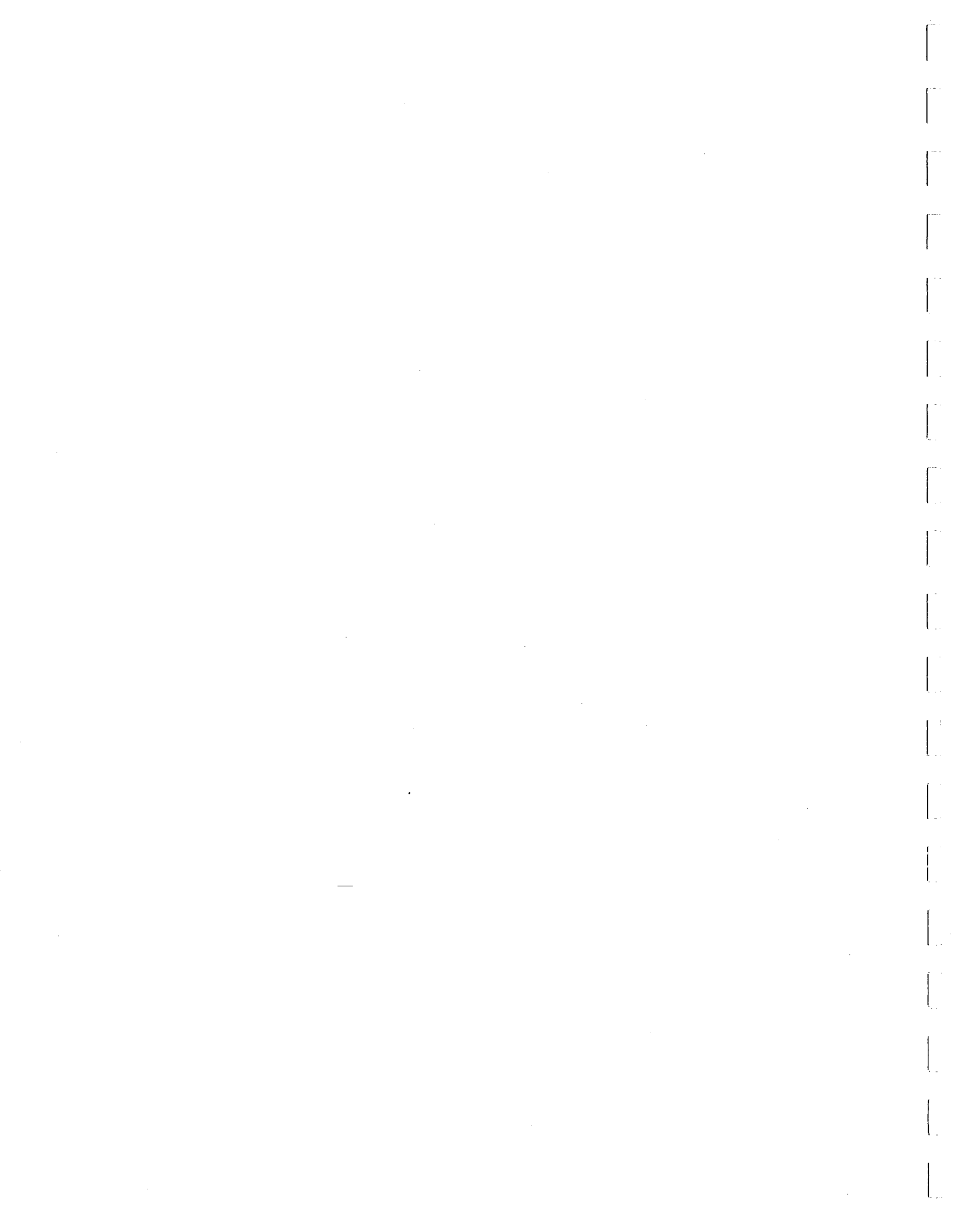
▲ Electrofishing Locations



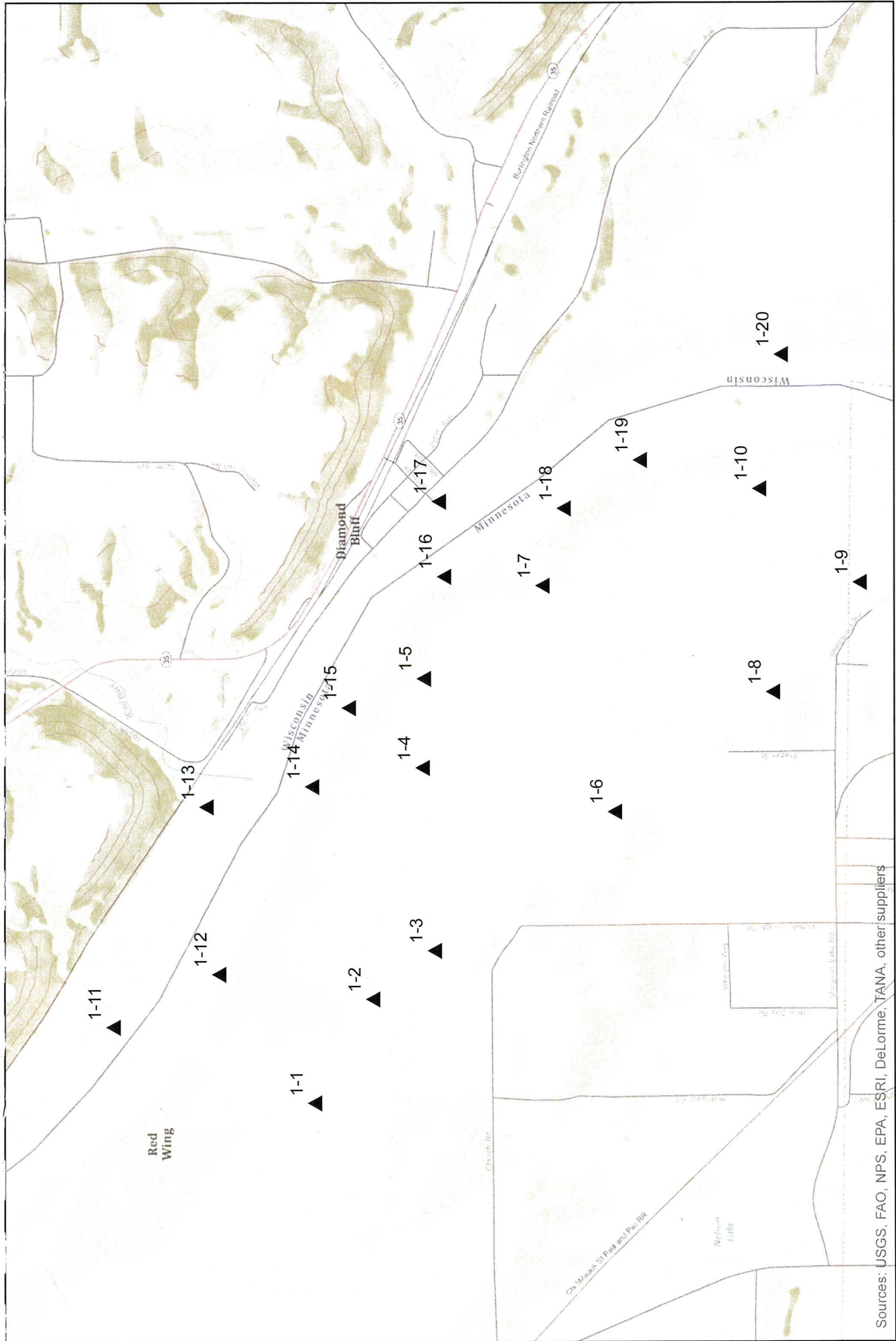
Figure 1

Prairie Island Fisheries Population Survey – Study area









Sources: USGS, FAO, NPS, EPA, ESRI, DeLorme, TANA, other suppliers

▲ Electrofishing Locations

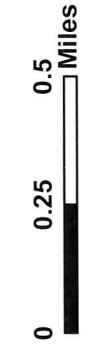


Figure 2

Prairie Island Fisheries Population Survey – Upstream



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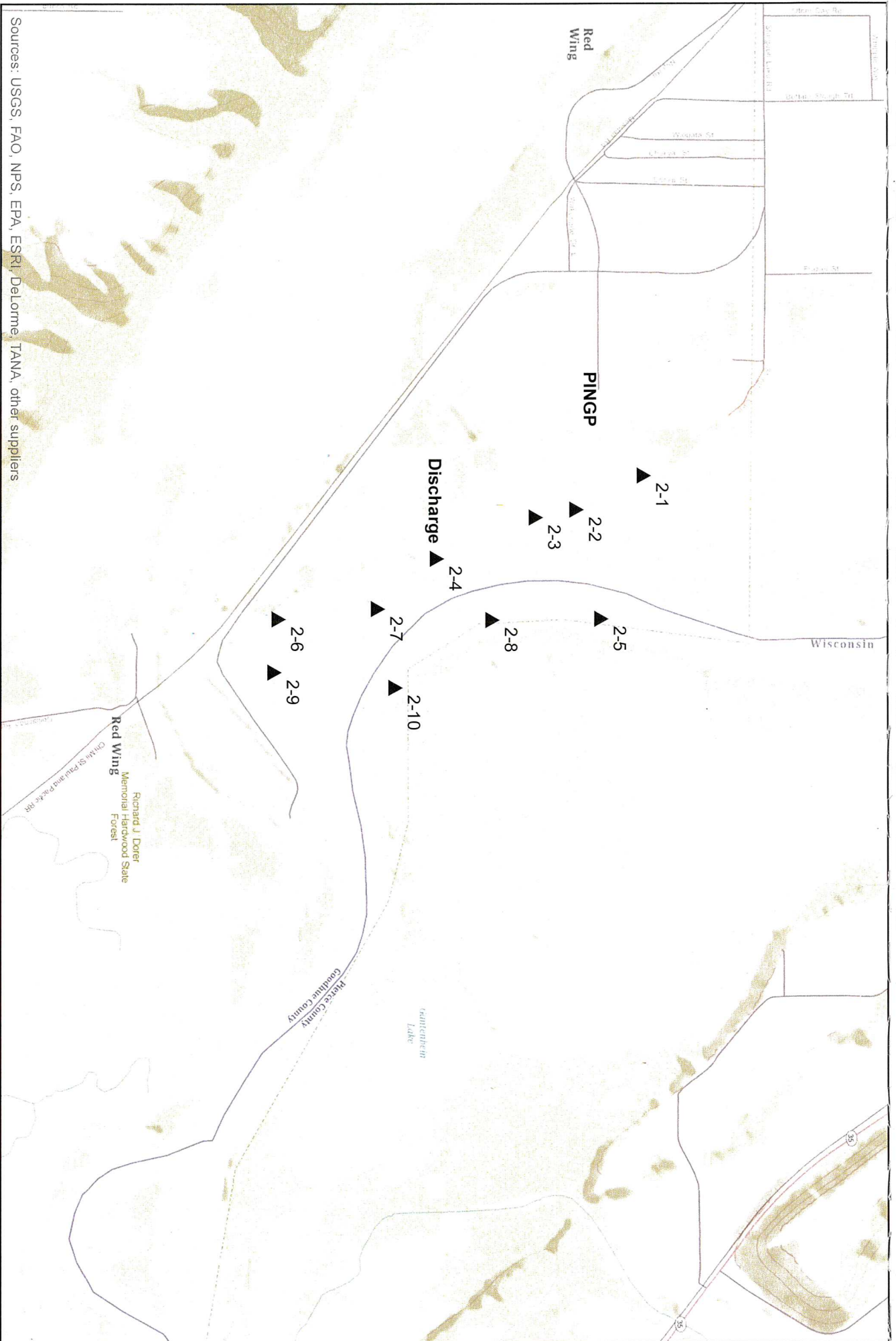
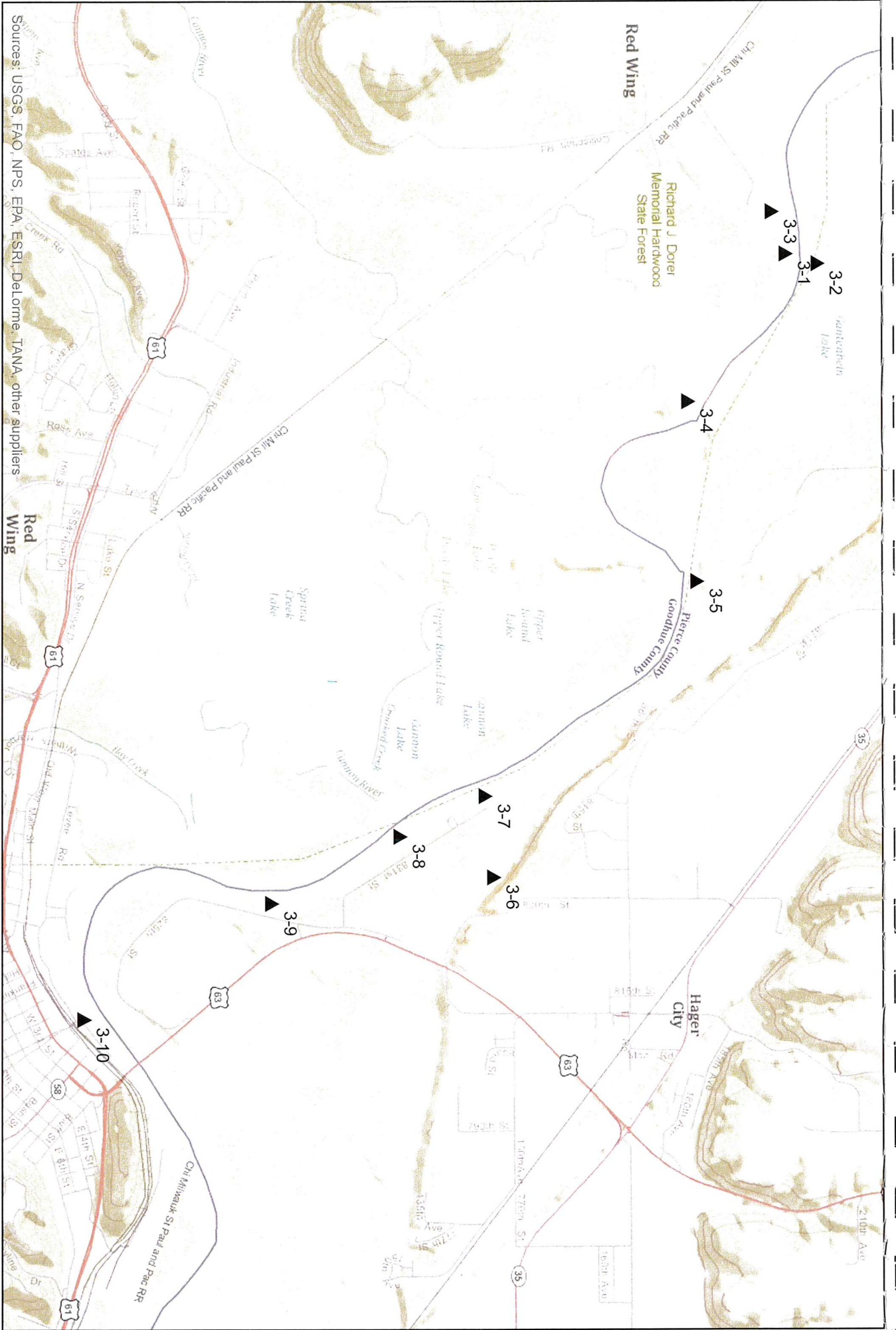


Figure 3

Prairie Island Fisheries Population Survey – Plant Area





Sources: USGS, FAO, NPS, EPA, ESRI, Delorme, TANA, other suppliers



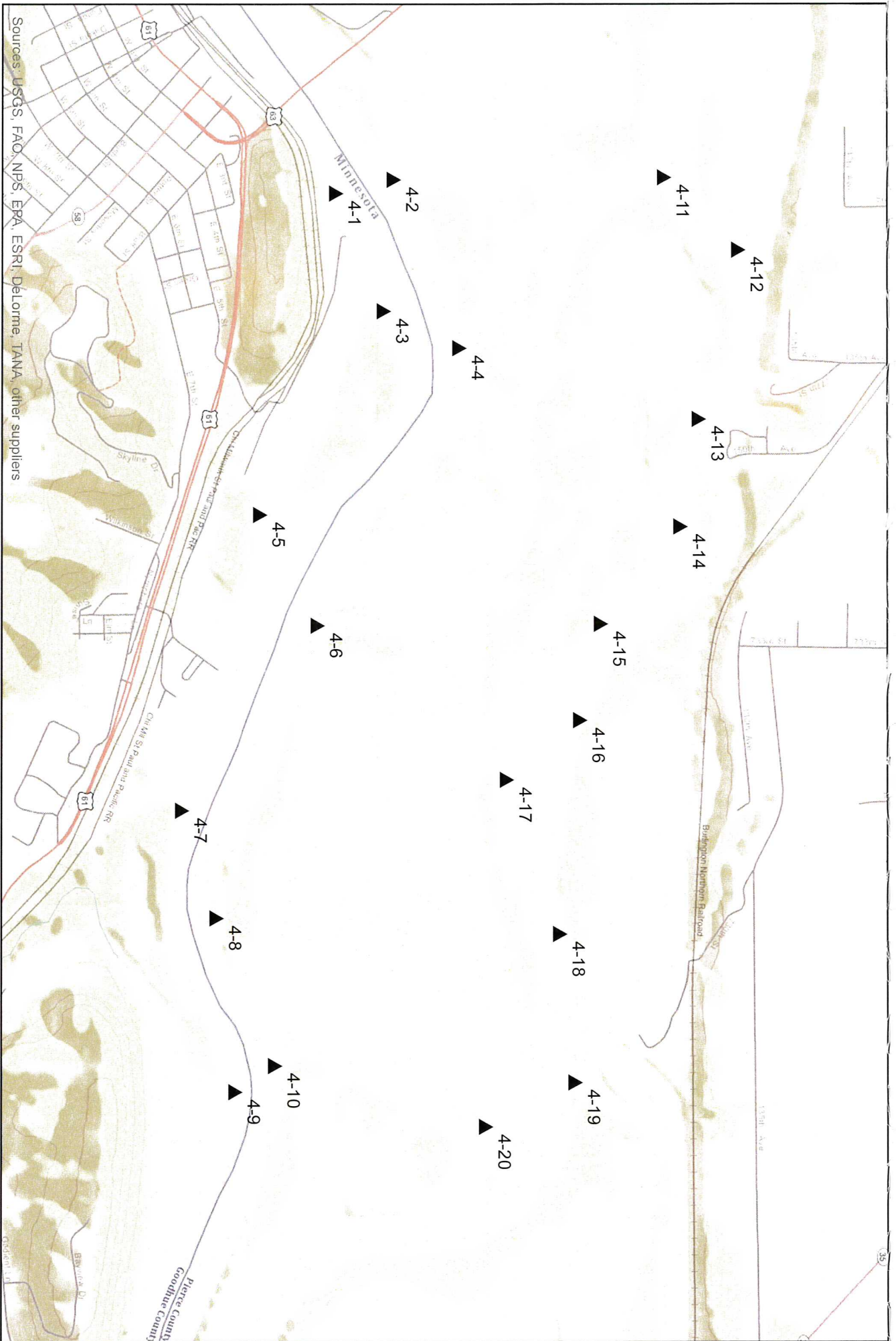
▲ Electrofishing Locations



Figure 4

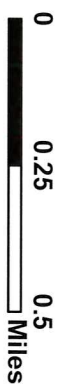
Prairie Island Fisheries Population Survey – Downstream





Sources: USGS, FAO, NPS, EPA, ESRI, Delorme, TANA, other suppliers.

▲ Electrofishing Locations



Prairie Island Fisheries Population Survey – Downstream

Figure 5



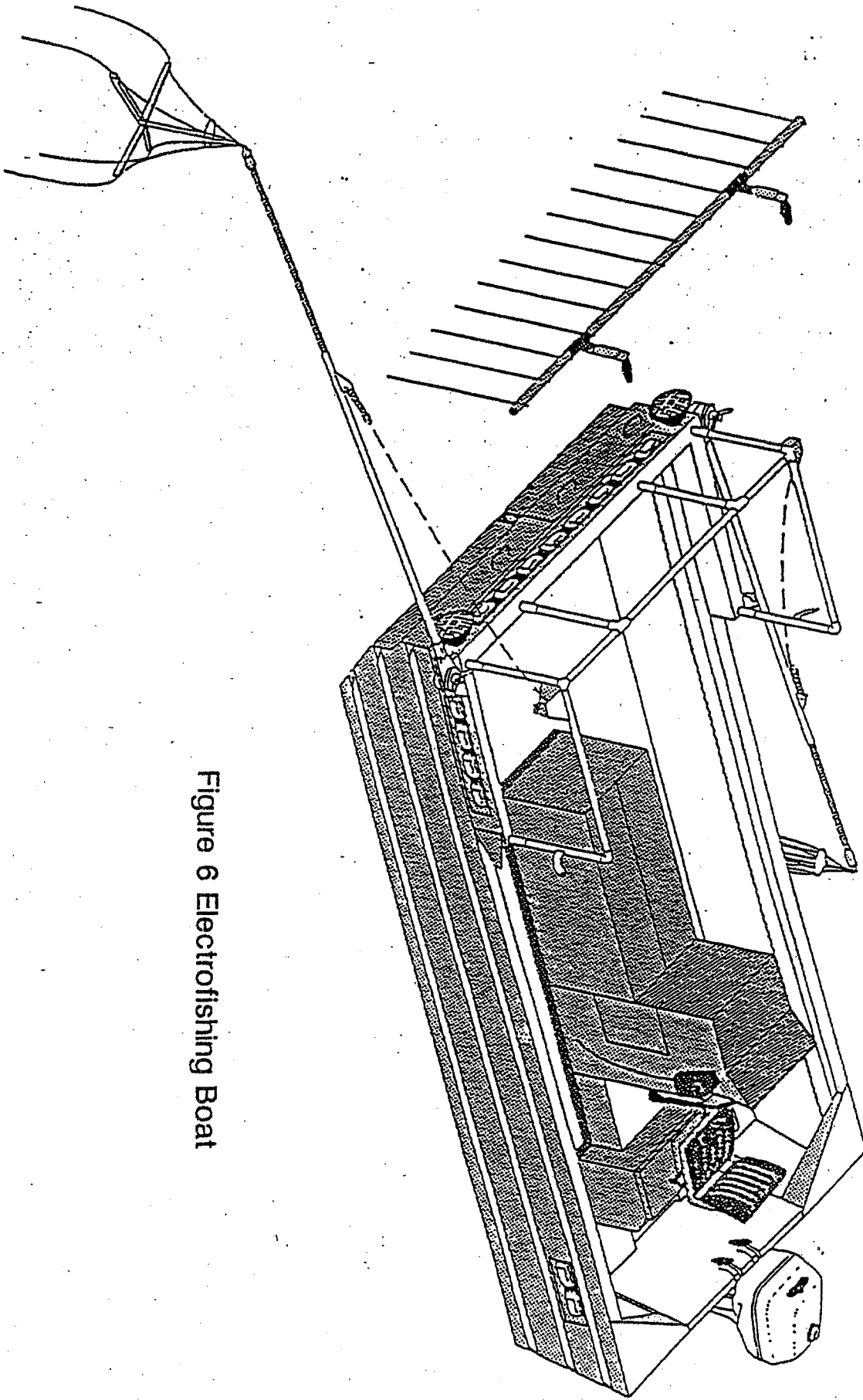


Figure 6 Electrofishing Boat









Table 2. Electrofishing CPUE (fish/hour) for each Mississippi River Pool in the vicinity of PINGP and total number of each species collected during 2015. Species are listed in descending order according to average CPUE.

Rank	Species	CPUE Pool 3	CPUE Pool 4	CPUE Average	Total number collected	Pool 3	Pool 4
1	Freshwater drum	17.68	41.56	29.62	1337	398	939
2	White bass	3.64	29.12	16.38	740	82	658
3	Shorthead redhorse	15.37	11.60	13.49	608	346	262
4	Carp	7.82	15.18	11.50	519	176	343
5	Smallmouth bass	5.95	10.05	8.00	361	134	227
6	Silver redhorse	9.73	5.22	7.48	337	219	118
7	Sauger	1.38	7.52	4.45	201	31	170
8	Walleye	2.49	5.31	3.90	176	56	120
9	Largemouth bass	0.84	5.67	3.26	147	19	128
10	Bluegill	3.51	1.86	2.69	121	79	42
11	Quillback	4.09	1.24	2.67	120	92	28
12	Mooneye	2.31	2.17	2.24	101	52	49
13	Longnose gar	2.13	1.06	1.60	72	48	24
14	Flathead catfish	1.24	1.73	1.49	67	28	39
15	Bowfin	0.00	2.35	1.18	53	0	53
16	Channel catfish	1.60	0.71	1.16	52	36	16
17	Smallmouth buffalo	1.56	0.27	0.92	41	35	6
18	Black crappie	0.67	1.11	0.89	40	15	25
19	Gizzard shad	0.98	0.49	0.74	33	22	11
20	Bigmouth buffalo	0.76	0.49	0.63	28	17	11
21	Northern pike	0.09	0.80	0.45	20	2	18
22	River carpsucker	0.76	0.09	0.43	19	17	2
23	Blue sucker	0.49	0.27	0.38	17	11	6
24	Shortnose gar	0.44	0.27	0.36	16	10	6
25	Yellow perch	0.31	0.35	0.33	15	7	8
26	Rock bass	0.22	0.22	0.22	10	5	5
27	Green sunfish	0.40	0.00	0.20	9	9	0
28	American eel	0.09	0.27	0.18	8	2	6
29	River redhorse	0.31	0.00	0.16	7	7	0
30	Golden redhorse	0.09	0.13	0.11	5	2	3
31	Silver lamprey	0.00	0.18	0.09	4	0	4
32	White crappie	0.04	0.04	0.04	2	1	1
33	Black buffalo	0.00	0.04	0.02	1	0	1
34	Burbot	0.00	0.04	0.02	1	0	1
35	Paddlefish	0.00	0.04	0.02	1	0	1
36	White sucker	0.00	0.04	0.02	1	0	1
37	Hybrid sunfish	0.00	0.04	0.02	1	0	1
38	Chestnut lamprey	0.00	0.04	0.02	1	0	1
	Totals	86.99	147.57	117.28	5292	1958	3334



Table 3. 2015 Electrofishing Length-Weight regression for each species in the vicinity of Prairie Island

	Species	Number Sampled	Y-INTERCEPT	Slope	r2
1	American Eel	8	-6.564	3.309	0.976
2	Bigmouth Buffalo	28	-4.656	2.970	0.986
3	Black Buffalo	1	--	--	--
4	Black Crappie	40	-5.529	3.319	0.924
5	Blue Sucker	17	-7.385	3.846	0.972
6	Bluegill	121	-6.002	3.601	0.947
7	Bowfin (dogfish)	53	-5.302	3.090	0.919
8	Burbot	1	--	--	--
9	Channel Catfish	52	-6.362	3.499	0.967
10	Chestnut Lamprey	1	--	--	--
11	Common Carp	519	-5.228	3.132	0.914
12	Flathead Catfish	67	-5.366	3.160	0.990
13	Freshwater Drum	1337	-5.247	3.135	0.954
14	Gizzard Shad	33	-5.635	3.276	0.975
15	Golden Redhorse	5	-5.118	3.071	0.989
16	Green Sunfish	9	-2.513	1.920	0.734
17	Hybrid Sunfish	1	--	--	--
18	Largemouth Bass	147	-5.248	3.175	0.984
19	Longnose Gar	72	-6.257	3.209	0.939
20	Mooneye	101	-4.594	2.844	0.872
21	Northern Pike	20	-4.821	2.862	0.955
22	Paddlefish	1	--	--	--
23	Quillback	120	-5.481	3.231	0.973
24	River Carpsucker	19	-4.518	2.899	0.960
25	River Redhorse	7	-6.119	3.425	0.987
26	Rock Bass	10	-5.466	3.349	0.705
27	Sauger	201	-5.208	3.045	0.934
28	Shorthead Redhorse	608	-4.820	2.945	0.963
29	Shortnose Gar	16	-7.149	3.604	0.909
30	Silver Lamprey	4	-4.892	2.658	0.877
31	Silver Redhorse	337	-4.897	2.993	0.979
32	Smallmouth Bass	361	-4.887	3.017	0.970
33	Smallmouth Buffalo	41	-5.120	3.128	0.979
34	Walleye	176	-5.232	3.074	0.987
35	White Bass	740	-4.731	2.941	0.932
36	White Crappie	2	-5.588	3.292	1.000
37	White Sucker	1	--	--	--
38	Yellow Perch	15	-6.611	3.734	0.928



**Attachment 1: Pool 3**





Minnesota Department of Natural Resources  
Fisheries Management



**LAKE SURVEY REPORT**

**DRAFT VERSION - PRELIMINARY DATA (AS OF 11/06/2015)**

Lake Name: U.S. Lock & Dam #3 Pool

Survey Type: External Management Survey

DOW Number: 25-0017-00

Survey ID Date: 05/01/2015

**Lake Identification**

Alternate Lake Name: N/A  
Primary Lake Class ID: 2

DNR Sounding Map Number: C2439  
Alternate Lake Class ID: N/A

**Lake Location**

Primary County: Goodhue

Nearest Town: Etter

**All Counties:** Dakota, Goodhue, Washington.

**Legal Descriptions**

Lake Center: Township - 114N Range - 16W Section - 13  
PLS Section Lake Center: 11401613

**All Legal Descriptions:**

Dakota County:	Township - 114N	Range - 16W	Section - 4
	Township - 115N	Range - 16W	Sections - 29, 30, 31, 32, 33
	Township - 115N	Range - 17W	Sections - 16, 21, 22, 23, 24, 25, 27
Goodhue County:	Township - 113N	Range - 15W	Sections - 4, 9, 10
	Township - 114N	Range - 15W	Sections - 19, 28, 29, 30, 33
	Township - 114N	Range - 16W	Sections - 3, 10, 11, 13, 14, 24
Washington County:	Township - 26N	Range - 20W	Sections - 7, 8, 9
	Township - 26N	Range - 21W	Sections - 1, 12

**Area Office**

Area Name: Lake City  
Region Name: Central

ORG Code: F317  
Region Number: 3

**Lake Characteristics**

Lake Area (planimetered acres): N/A	GIS Shoreline Length (miles): 56.73
GIS Lake Area (acres): 1,548.93	Maximum Fetch (miles): N/A
DOW Lake Area (acres): 7,426.00	Fetch Orientation (degrees): N/A
Littoral Area (acres): 0.00	USGS Quad Map Number: T19b
Area in MN (acres): 1,548.92	USGS Quad 24K GIS Index: 3837
Maximum Depth (feet): N/A	
Mean Depth (feet): N/A	

**Watershed Characteristics**

Major Watershed

Name: Miss R-Lake Pepin  
Watershed Number: 38  
Watershed size (acres): 382,780

Minor Watershed

Name: Mississippi R  
Watershed Number: 14  
Watershed size (acres): 40,075



**Surveys and Investigations**

**Re-Survey:** 11/01/1993, 07/07/1980.

**Population Assessment:** 10/16/2014, 10/29/2013, 10/28/2013, 06/11/2013, 10/17/2012, 10/15/2012, 10/21/2011, 10/20/2011, 10/22/2010, 08/06/2010, 05/24/2010, 11/05/2009, 10/27/2009, 11/05/2008, 10/31/2008, 11/07/2007, 08/23/2006, 08/14/2006.

**Special Assessment:** 04/30/2014, 04/30/2013, 03/27/2012, 09/23/2008, 11/14/2006, 10/23/2006.

**Natural Reproduction Check:** 09/02/2014, 09/03/2013, 08/30/2013, 08/13/2012, 08/06/2012, 09/02/2011, 08/30/2011, 08/18/2010, 08/09/2010, 08/20/2009, 08/14/2009, 08/15/2008, 08/14/2008, 08/15/2007, 08/14/2007.

**Investigational Survey:** 09/01/2006.

**External Management Survey:** 05/01/2014, 05/01/2013, 05/01/2012, 05/01/2011, 05/01/2010, 05/01/2009, 05/01/2008, 05/01/2007, 05/01/2006, 05/01/2005, 05/01/2004, 05/01/2003.

**Standard Survey:** 10/12/2015, 08/31/2015.

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Natural Reproduction Catch Summary for SEF

## Special sampling, electrofishing

Total run-time for all stations: 49999999:57:00  
 Total on-time for all stations: 22:30:23  
 First Sampling Date: 05/21/2015  
 Last Sampling Date: 10/08/2015  
 Daylight Sampling: No  
 Target Species: N/A

Abbr	Species	Age	Total Number	Number Measured	Mean Length (inches)	Length Range (inches)		Catch Rates (number per hour)	
						Min	Max	Run-Time	On-Time
AME	American Eel	All	2	2	22.93	22.05	23.82	0.00	0.09
BIB	Bigmouth Buffalo	All	17	17	22.96	5.71	36.22	0.00	0.76
BLC	Black Crappie	All	15	15	10.20	4.76	12.60	0.00	0.67
BLS	Blue Sucker	All	11	11	26.43	23.11	28.39	0.00	0.49
BLG	Bluegill	All	79	79	4.99	2.28	9.25	0.00	3.51
CCF	Channel Catfish	All	36	36	20.48	13.66	30.71	0.00	1.60
CAP	Common Carp	All	176	176	24.23	12.60	30.79	0.00	7.82
FCF	Flathead Catfish	All	28	28	16.88	7.40	44.29	0.00	1.24
FRD	Freshwater Drum	All	398	398	13.35	6.89	27.24	0.00	17.68
GIS	Gizzard Shad	All	22	22	10.37	6.34	18.90	0.00	0.98
GLR	Golden Redhorse	All	2	2	18.29	17.44	19.13	0.00	0.09
GSF	Green Sunfish	All	9	9	5.11	3.58	6.85	0.00	0.40
LMB	Largemouth Bass	All	19	19	8.63	3.86	17.32	0.00	0.84
LNG	Longnose Gar	All	48	48	30.91	25.98	42.13	0.00	2.13
MOE	Mooneye	All	52	52	11.82	7.13	14.84	0.00	2.31
NOP	Northern Pike	All	2	2	17.62	13.58	21.65	0.00	0.09
QBS	Quillback	All	92	92	18.32	5.83	21.73	0.00	4.09
RCS	River Carpsucker	All	17	17	19.70	12.91	21.85	0.00	0.76
RRH	River Redhorse	All	7	7	23.99	21.65	26.77	0.00	0.31
RKB	Rock Bass	All	5	5	5.98	5.24	7.28	0.00	0.22
SAR	Sauger	All	31	31	12.50	9.88	16.42	0.00	1.38
SHR	Shorthead Redhorse	All	346	346	15.73	5.87	19.37	0.00	15.37
SNG	Shortnose Gar	All	10	10	25.62	22.44	29.02	0.00	0.44
SLR	Silver Redhorse	All	219	219	20.42	5.12	25.39	0.00	9.73
SMB	Smallmouth Bass	All	134	134	10.22	3.66	18.90	0.00	5.95
SAB	Smallmouth Buffalo	All	35	35	22.24	7.28	33.86	0.00	1.56
WAE	Walleye	All	56	56	15.66	6.50	27.76	0.00	2.49
WHB	White Bass	All	82	82	12.93	6.77	16.81	0.00	3.64
WHC	White Crappie	All	1	1	13.43	13.43	13.43	0.00	0.04
YEP	Yellow Perch	All	7	7	6.57	4.61	7.99	0.00	0.31

**Length Frequency Distribution for SEF (for fish < 36.00 inches)**

**Special sampling, electrofishing**

(Field work conducted between 05/21/2015 and 10/08/2015)

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>
< 3.00	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	5	-	-	-	-	-	-	-	1	1	-	-
4.00 - 4.49	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	1	21	-	-	-	-	-	-	-	4	2	-	-
5.00 - 5.49	-	-	-	7	-	-	-	-	-	-	-	1	2	-	-
5.50 - 5.99	-	1	-	8	-	-	-	-	-	-	-	2	1	-	-
6.00 - 6.49	-	-	-	6	-	-	-	-	-	1	-	-	1	-	-
6.50 - 6.99	-	-	-	-	-	-	-	-	1	5	-	1	-	-	-
7.00 - 7.49	-	-	-	2	-	-	-	1	1	5	-	-	-	-	1
7.50 - 7.99	-	-	-	5	-	-	-	1	-	3	-	-	2	-	-
8.00 - 8.49	-	-	-	1	-	-	-	1	1	-	-	-	-	-	-
8.50 - 8.99	-	-	3	-	-	-	-	-	6	-	-	-	1	-	-
9.00 - 9.49	-	-	-	1	-	-	-	-	7	-	-	-	4	-	-
9.50 - 9.99	-	-	2	-	-	-	-	-	8	-	-	-	1	-	-
10.00 - 10.49	-	-	1	-	-	-	-	1	10	-	-	-	-	-	2
10.50 - 10.99	-	-	2	-	-	-	-	2	23	1	-	-	-	-	7
11.00 - 11.49	-	-	3	-	-	-	-	3	38	1	-	-	-	-	13
11.50 - 11.99	-	-	-	-	-	-	-	2	46	-	-	-	-	-	11
12.00 - 12.99	-	-	3	-	-	1	-	2	86	-	-	-	1	-	10
13.00 - 13.99	-	-	-	-	-	-	1	2	47	-	-	-	2	-	7
14.00 - 14.99	-	-	-	-	-	-	-	2	26	-	-	-	-	-	1
15.00 - 15.99	-	-	-	-	-	-	4	-	35	-	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-	-	-	1	18	1	-	-	-	-	-
17.00 - 17.99	-	2	-	-	-	1	6	-	23	3	1	-	1	-	-
18.00 - 18.99	-	1	-	-	-	3	3	3	7	2	-	-	-	-	-
19.00 - 19.99	-	1	-	-	-	4	3	-	3	-	1	-	-	-	-
20.00 - 20.99	-	3	-	-	-	4	6	1	5	-	-	-	-	-	-
21.00 - 21.99	-	2	-	-	-	15	2	-	3	-	-	-	-	-	-
22.00 - 22.99	1	-	-	-	-	25	2	-	-	-	-	-	-	-	-
23.00 - 23.99	1	1	-	-	2	27	3	-	1	-	-	-	-	-	-
24.00 - 24.99	-	-	-	-	-	35	2	2	-	-	-	-	-	-	-
25.00 - 25.99	-	2	-	-	1	24	2	1	2	-	-	-	-	1	-
26.00 - 26.99	-	-	-	-	3	10	1	-	-	-	-	-	-	4	-
27.00 - 27.99	-	1	-	-	4	10	-	-	1	-	-	-	-	5	-
28.00 - 28.99	-	-	-	-	1	10	-	-	-	-	-	-	-	6	-
29.00 - 29.99	-	-	-	-	-	5	-	-	-	-	-	-	-	6	-
30.00 - 30.99	-	-	-	-	-	2	1	-	-	-	-	-	-	7	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
32.00 - 32.99	-	1	-	-	-	-	-	-	-	-	-	-	-	7	-
33.00 - 33.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
34.00 - 34.99	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
= > 36.00	-	1	-	-	-	-	-	1	-	-	-	-	-	5	-

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>
Total	2	17	15	79	11	176	36	28	398	22	2	9	19	48	52
Min. Length	22.05	5.71	4.76	2.28	23.11	12.60	13.66	7.40	6.89	6.34	17.44	3.58	3.86	25.98	7.13
Max. Length	23.82	36.22	12.60	9.25	28.39	30.79	30.71	44.29	27.24	18.90	19.13	6.85	17.32	42.13	14.84
Mean Length	22.93	22.96	10.20	4.99	26.43	24.23	20.48	16.88	13.35	10.37	18.29	5.11	8.63	30.91	11.82
# Measured	2	17	15	79	11	176	36	28	398	22	2	9	19	48	52
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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

LAKE SURVEY REPORT

DRAFT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2015 FOR DOW NUMBER 25-0017-00

Length Frequency Distribution for SEF (for fish < 36.00 inches) (Continued)

Special sampling, electrofishing

(Field work conducted between 05/21/2015 and 10/08/2015)

	<u>NOP</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	-	-	-	3	-	-	-	-	2
5.00 - 5.49	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-
5.50 - 5.99	-	2	-	1	-	-	-	1	-	2	-	-	-	-	-
6.00 - 6.49	-	1	-	1	-	-	-	1	-	2	-	-	-	-	1
6.50 - 6.99	-	1	-	-	-	-	-	1	-	7	-	2	1	-	1
7.00 - 7.49	-	-	-	1	-	1	-	1	-	11	-	3	-	-	1
7.50 - 7.99	-	-	-	-	-	-	-	1	-	13	-	3	-	-	2
8.00 - 8.49	-	-	-	-	-	-	-	1	-	11	-	3	1	-	-
8.50 - 8.99	-	-	-	-	-	-	-	-	-	7	-	1	-	-	-
9.00 - 9.49	-	-	-	-	-	-	-	2	1	10	-	-	1	-	-
9.50 - 9.99	-	-	-	-	-	-	1	2	-	8	-	-	2	-	-
10.00 - 10.49	-	-	-	-	-	-	6	-	2	6	-	1	3	-	-
10.50 - 10.99	-	-	-	-	-	-	4	1	1	4	-	2	3	-	-
11.00 - 11.49	-	-	-	-	-	-	3	-	-	3	-	-	5	-	-
11.50 - 11.99	-	-	-	-	-	-	2	-	-	1	-	2	9	-	-
12.00 - 12.99	-	-	1	-	-	-	2	4	-	6	-	2	15	-	-
13.00 - 13.99	1	-	-	-	-	-	5	21	-	11	-	1	17	1	-
14.00 - 14.99	-	1	-	-	-	-	2	32	1	11	-	2	14	-	-
15.00 - 15.99	-	-	-	-	-	-	4	114	1	6	-	4	9	-	-
16.00 - 16.99	-	4	1	-	-	-	2	96	5	3	-	1	2	-	-
17.00 - 17.99	-	13	-	-	-	-	-	57	12	2	-	3	-	-	-
18.00 - 18.99	-	29	3	-	-	3	-	10	19	3	-	6	-	-	-
19.00 - 19.99	-	28	3	-	-	4	-	1	32	-	-	6	-	-	-
20.00 - 20.99	-	9	3	-	-	4	-	-	57	-	-	8	-	-	-
21.00 - 21.99	1	4	6	-	2	5	-	-	36	-	-	2	-	-	-
22.00 - 22.99	-	-	-	-	1	1	-	-	24	-	2	1	-	-	-
23.00 - 23.99	-	-	-	-	1	6	-	-	17	-	1	1	-	-	-
24.00 - 24.99	-	-	-	-	-	6	-	-	9	-	1	1	-	-	-
25.00 - 25.99	-	-	-	-	1	3	-	-	1	-	2	-	-	-	-
26.00 - 26.99	-	-	-	-	2	1	-	-	-	-	1	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
30.00 - 30.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>NOP</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
Total	2	92	17	5	7	35	31	346	219	134	10	56	82	1	7
Min. Length	13.58	5.83	12.91	5.24	21.65	7.28	9.88	5.87	5.12	3.66	22.44	6.50	6.77	13.43	4.61
Max. Length	21.65	21.73	21.85	7.28	26.77	33.86	16.42	19.37	25.39	18.90	29.02	27.76	16.81	13.43	7.99
Mean Length	17.62	18.32	19.70	5.98	23.99	22.24	12.50	15.73	20.42	10.22	25.62	15.66	12.93	13.43	6.57
# Measured	2	92	17	5	7	35	31	346	219	134	10	56	82	1	7
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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 SEF (for fish ≥ 36.00 inches)**

**Special sampling, electrofishing**

(Field work conducted between 05/21/2015 and 10/08/2015)

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>
< 36.00	2	16	15	79	11	176	36	27	398	22	2	9	19	43	52
36.00 - 36.99	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
37.00 - 37.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38.00 - 38.99	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
39.00 - 39.99	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
40.00 - 40.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41.00 - 41.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42.00 - 42.99	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
43.00 - 43.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44.00 - 44.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>
Total	2	17	15	79	11	176	36	28	398	22	2	9	19	48	52
Min. Length	22.05	5.71	4.76	2.28	23.11	12.60	13.66	7.40	6.89	6.34	17.44	3.58	3.86	25.98	7.13
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Mean Length	22.93	22.96	10.20	4.99	26.43	24.23	20.48	16.88	13.35	10.37	18.29	5.11	8.63	30.91	11.82
# Measured	2	17	15	79	11	176	36	28	398	22	2	9	19	48	52
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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 SEF (for fish ≥ 36.00 inches) (Continued)**

**Special sampling, electrofishing**

(Field work conducted between 05/21/2015 and 10/08/2015)

	<u>NOP</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
< 36.00	2	92	17	5	7	35	31	346	219	134	10	56	82	1	7
36.00 - 36.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>NOP</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
Total	2	92	17	5	7	35	31	346	219	134	10	56	82	1	7
Min. Length	13.58	5.83	12.91	5.24	21.65	7.28	9.88	5.87	5.12	3.66	22.44	6.50	6.77	13.43	4.61
Max. Length	21.65	21.73	21.85	7.28	26.77	33.86	16.42	19.37	25.39	18.90	29.02	27.76	16.81	13.43	7.99
Mean Length	17.62	18.32	19.70	5.98	23.99	22.24	12.50	15.73	20.42	10.22	25.62	15.66	12.93	13.43	6.57
# Measured	2	92	17	5	7	35	31	346	219	134	10	56	82	1	7
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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

Approval Dates And Notices

Date Approved By Lake City Area Fisheries Supervisor: 11/06/2015

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

**This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 11/06/2015), and is therefore subject to change at any time.**



Minnesota Department of Natural Resources

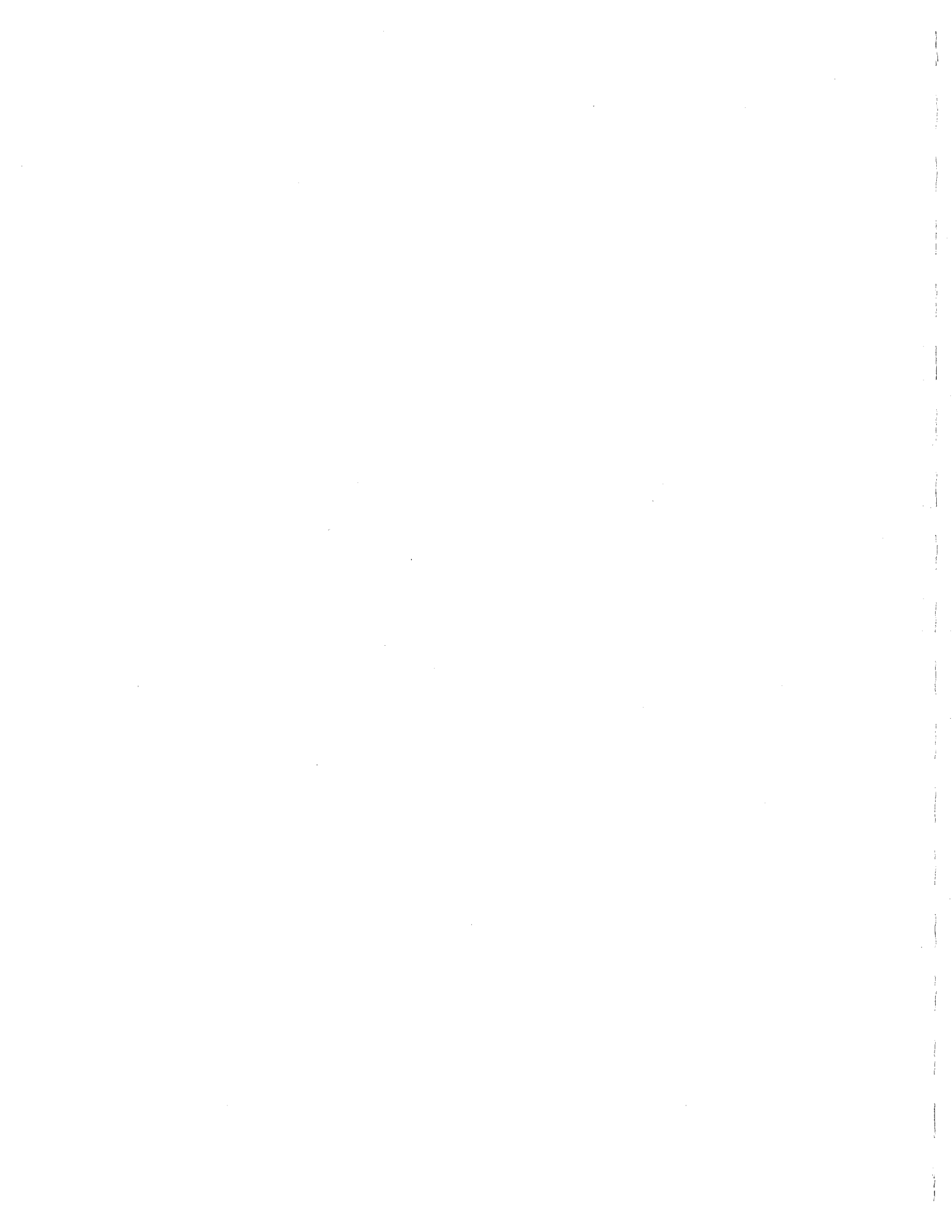
By accepting the data in this report, the user agrees the data will be used for personal benefit and not for profit. Any other uses or publication of the data needs the consent of the Department. The Minnesota Department of Natural Resources assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on the data.

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Lake Survey Report revision: 20150625-RJE. Data Date: 11/06/2015 at 3:12 pm .

**Attachment 2: Pool 4**







# Minnesota Department of Natural Resources

## Fisheries Management

### LAKE SURVEY REPORT



**DRAFT VERSION - PRELIMINARY DATA (AS OF 11/06/2015)**

Lake Name: U.S. Lock & Dam #4 Pool

Survey Type: External Management Survey

DOW Number: 79-0005-00

Survey ID Date: 05/01/2015

#### Lake Identification

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

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

#### Lake Location

Primary County: Wabasha

Nearest Town: Wabasha

#### Legal Descriptions

Lake Center: Township - 111N Range - 10W Section - 35  
PLS Section Lake Center: 11101035

##### All Legal Descriptions:

Wabasha County:	Township - 110N	Range - 10W	Sections - 1, 2, 3, 12
	Township - 110N	Range - 9W	Sections - 7, 17, 18
	Township - 111N	Range - 10W	Sections - 19, 20, 28, 29, 30, 32, 33, 34, 35
	Township - 111N	Range - 11W	Sections - 13, 14, 23, 24

#### Area Office

Area Name: Lake City  
Region Name: Central

ORG Code: F317  
Region Number: 3

#### Lake Characteristics

Lake Area (planimetered acres):	N/A	GIS Shoreline Length (miles):	49.52
GIS Lake Area (acres):	2,612.35	Maximum Fetch (miles):	N/A
DOW Lake Area (acres):	5,660.00	Fetch Orientation (degrees):	N/A
Littoral Area (acres):	0.00	USGS Quad Map Number:	U22c
Area in MN (acres):	2,612.34	USGS Quad 24K GIS Index:	4143
Maximum Depth (feet):	N/A		
Mean Depth (feet):	N/A		

#### Watershed Characteristics

##### Major Watershed

Name: Miss R-Winona  
Watershed Number: 40  
Watershed size (acres): 419,200

##### Minor Watershed

Name: Mississippi R  
Watershed Number: 1  
Watershed size (acres): 36,523

**Surveys and Investigations**

**Population Assessment:** 06/30/2014, 06/13/2011.

**Special Assessment:** 04/30/2014, 04/30/2013, 05/01/2011, 05/10/2010, 06/03/2009, 08/04/2008, 06/04/2008, 08/08/2007, 10/05/2006.

**Dissolved Oxygen Check:** 02/01/2007.

**Investigational Survey:** 09/06/2006.

**External Management Survey:** 05/01/2014, 05/01/2013, 05/01/2012, 05/01/2011, 05/01/2010, 05/01/2009, 05/01/2008, 05/01/2007, 05/01/2006, 05/01/2005, 05/01/2004, 05/01/2003.

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Natural Reproduction Catch Summary for SEF

## Special sampling, electrofishing

Total run-time for all stations: 49722390:20:21

Total on-time for all stations: 22:35:38

First Sampling Date: 05/11/2015

Last Sampling Date: 10/06/2015

Daylight Sampling: No

Target Species: N/A

Abbr	Species	Age	Total Number	Number Measured	Mean Length (inches)	Length Range (inches)		Catch Rates (number per hour)	
						Min	Max	Run-Time	On-Time
AME	American Eel	All	6	6	26.56	21.46	37.40	0.00	0.27
BIB	Bigmouth Buffalo	All	11	11	22.95	18.90	37.80	0.00	0.49
BKB	Black Buffalo	All	1	1	19.13	19.13	19.13	0.00	0.04
BLC	Black Crappie	All	25	25	9.71	7.40	11.54	0.00	1.11
BLS	Blue Sucker	All	6	6	23.05	16.69	27.76	0.00	0.27
BLG	Bluegill	All	42	42	6.69	3.54	9.06	0.00	1.86
BOF	Bowfin (Dogfish)	All	53	53	23.51	20.59	26.77	0.00	2.35
BUB	Burbot	All	1	1	14.13	14.13	14.13	0.00	0.04
CCF	Channel Catfish	All	16	16	21.55	10.87	27.05	0.00	0.71
CHL	Chestnut Lamprey	All	1	1	10.24	10.24	10.24	0.00	0.04
CAP	Common Carp	All	343	343	24.46	16.02	36.22	0.00	15.18
FCF	Flathead Catfish	All	39	39	17.17	7.99	42.91	0.00	1.73
FRD	Freshwater Drum	All	939	939	13.49	7.36	28.03	0.00	41.56
GIS	Gizzard Shad	All	11	11	12.71	6.30	18.74	0.00	0.49
GLR	Golden Redhorse	All	3	3	15.03	13.27	16.65	0.00	0.13
HSF	Hybrid Sunfish	All	1	1	5.94	5.94	5.94	0.00	0.04
LMB	Largemouth Bass	All	128	128	12.73	4.37	18.54	0.00	5.67
LNG	Longnose Gar	All	24	24	27.34	15.08	34.65	0.00	1.06
MOE	Mooneye	All	49	49	11.94	8.31	13.78	0.00	2.17
NOP	Northern Pike	All	18	18	23.68	15.91	37.80	0.00	0.80
PAH	Paddlefish	All	1	1	53.94	53.94	53.94	0.00	0.04
QBS	Quillback	All	28	28	18.81	17.32	22.09	0.00	1.24
RCS	River Carpsucker	All	2	2	15.65	15.16	16.14	0.00	0.09
RKB	Rock Bass	All	5	5	6.47	5.12	8.27	0.00	0.22
SAR	Sauger	All	170	170	10.19	6.26	17.91	0.00	7.52
SHR	Shorthead Redhorse	All	262	262	15.87	6.10	20.24	0.00	11.60
SNG	Shortnose Gar	All	6	6	25.41	21.61	29.37	0.00	0.27
SIL	Silver Lamprey	All	4	4	9.10	6.30	10.63	0.00	0.18
SLR	Silver Redhorse	All	118	118	19.54	8.58	24.06	0.00	5.22
SMB	Smallmouth Bass	All	227	227	11.23	5.20	19.02	0.00	10.05
SAB	Smallmouth Buffalo	All	6	6	18.56	15.87	25.43	0.00	0.27
WAE	Walleye	All	120	120	16.45	6.50	27.17	0.00	5.31
WHB	White Bass	All	658	658	13.52	6.50	16.77	0.00	29.12
WHC	White Crappie	All	1	1	6.81	6.81	6.81	0.00	0.04
WTS	White Sucker	All	1	1	12.72	12.72	12.72	0.00	0.04
YEP	Yellow Perch	All	8	8	6.09	3.74	9.21	0.00	0.35

**Length Frequency Distribution for SEF (for fish < 36.00 inches)**

**Special sampling, electrofishing**

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>AME</u>	<u>BIB</u>	<u>BKB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>CHL</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.50 - 5.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.00 - 6.49	-	-	-	-	2	-	-	-	-	-	-	-	-	1	-
6.50 - 6.99	-	-	-	-	8	-	-	-	-	-	-	-	1	1	-
7.00 - 7.49	-	-	-	1	6	-	-	-	-	-	-	1	4	2	-
7.50 - 7.99	-	-	-	1	9	-	-	-	-	-	-	-	9	-	-
8.00 - 8.49	-	-	-	1	2	-	-	-	-	-	-	3	4	-	-
8.50 - 8.99	-	-	-	7	1	-	-	-	-	-	-	1	5	-	-
9.00 - 9.49	-	-	-	10	-	-	-	-	-	-	-	-	7	-	-
9.50 - 9.99	-	-	-	1	-	-	-	-	-	-	1	1	7	-	-
10.00 - 10.49	-	-	-	1	-	-	-	-	-	1	-	1	31	-	-
10.50 - 10.99	-	-	-	2	-	-	-	-	-	-	-	-	76	-	-
11.00 - 11.49	-	-	-	1	-	-	-	-	-	-	3	3	115	-	-
11.50 - 11.99	-	-	-	-	-	-	-	-	-	-	3	3	211	1	-
12.00 - 12.99	-	-	-	-	-	-	-	-	-	-	2	2	142	-	1
13.00 - 13.99	-	-	-	-	-	-	-	1	-	-	-	-	128	1	-
14.00 - 14.99	-	-	-	-	-	-	-	-	1	1	-	5	89	2	1
15.00 - 15.99	-	-	-	-	-	1	-	-	1	-	-	2	38	1	1
16.00 - 16.99	-	-	-	-	-	-	-	-	1	1	-	6	23	1	-
17.00 - 17.99	-	1	-	-	-	-	-	-	-	1	-	3	18	1	-
18.00 - 18.99	-	2	1	-	-	-	-	-	4	2	-	-	12	-	-
19.00 - 19.99	-	3	-	-	-	1	2	-	8	1	-	2	9	-	-
20.00 - 20.99	2	2	-	-	-	-	6	-	27	-	-	1	4	-	-
21.00 - 21.99	1	-	-	-	-	1	17	-	61	1	-	-	1	-	-
22.00 - 22.99	-	-	-	-	-	1	9	-	55	3	-	-	1	-	-
23.00 - 23.99	-	1	-	-	-	-	6	-	61	1	-	1	2	-	-
24.00 - 24.99	1	-	-	-	-	-	10	-	48	2	-	-	1	-	-
25.00 - 25.99	-	-	-	-	-	-	3	-	29	1	-	-	-	-	-
26.00 - 26.99	-	1	-	-	-	2	-	-	23	1	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	-	-	-	11	-	-	1	1	-	-
28.00 - 28.99	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
30.00 - 30.99	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	1	1	-	-	-	-	-	-	1	-	-	2	-	-	-

	<u>AME</u>	<u>BIB</u>	<u>BKB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>CHL</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>
Total	6	11	1	25	42	6	53	1	343	16	1	39	939	11	3
Min. Length	21.46	18.90	19.13	7.40	3.54	16.69	20.59	14.13	16.02	10.87	10.24	7.99	7.36	6.30	13.27
Max. Length	37.40	37.80	19.13	11.54	9.06	27.76	26.77	14.13	36.22	27.05	10.24	42.91	28.03	18.74	16.65
Mean Length	26.56	22.95	19.13	9.71	6.69	23.05	23.51	14.13	24.46	21.55	10.24	17.17	13.49	12.71	15.03
# Measured	6	11	1	25	42	6	53	1	343	16	1	39	939	11	3
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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 SEF (for fish < 36.00 inches) (Continued)**

**Special sampling, electrofishing**

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>HSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PAH</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4.50 - 4.99	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3
5.50 - 5.99	1	3	-	-	-	-	-	-	-	-	-	-	-	-	2
6.00 - 6.49	-	2	-	-	-	-	-	-	2	-	5	1	1	-	3
6.50 - 6.99	-	-	-	-	-	-	-	-	1	-	12	2	-	-	8
7.00 - 7.49	-	-	-	-	-	-	-	-	-	-	8	-	-	-	15
7.50 - 7.99	-	-	-	-	-	-	-	-	-	-	7	3	-	-	20
8.00 - 8.49	-	5	-	1	-	-	-	-	1	-	7	2	-	-	15
8.50 - 8.99	-	7	-	-	-	-	-	-	-	-	13	-	-	1	13
9.00 - 9.49	-	18	-	1	-	-	-	-	-	-	11	1	1	-	5
9.50 - 9.99	-	3	-	-	-	-	-	-	-	-	13	2	-	2	9
10.00 - 10.49	-	4	-	2	-	-	-	-	-	-	12	1	1	-	12
10.50 - 10.99	-	2	-	-	-	-	-	-	-	-	16	2	1	-	10
11.00 - 11.49	-	1	-	14	-	-	-	-	-	-	15	1	-	2	10
11.50 - 11.99	-	1	-	7	-	-	-	-	-	-	15	7	-	-	11
12.00 - 12.99	-	2	-	16	-	-	-	-	-	-	26	6	-	-	12
13.00 - 13.99	-	10	-	8	-	-	-	-	-	-	4	9	-	2	20
14.00 - 14.99	-	32	-	-	-	-	-	-	-	-	4	24	-	1	23
15.00 - 15.99	-	19	1	-	1	-	-	1	-	1	-	48	-	4	20
16.00 - 16.99	-	10	-	-	-	-	-	1	-	3	1	68	-	12	5
17.00 - 17.99	-	6	1	-	-	-	6	-	-	-	1	50	-	6	6
18.00 - 18.99	-	1	-	-	3	-	12	-	-	-	-	28	-	15	4
19.00 - 19.99	-	-	-	-	-	-	7	-	-	-	-	6	-	17	1
20.00 - 20.99	-	-	-	-	3	-	2	-	-	-	-	1	-	12	-
21.00 - 21.99	-	-	-	-	2	-	-	-	-	1	-	-	-	14	-
22.00 - 22.99	-	-	1	-	1	-	1	-	-	-	-	-	-	16	-
23.00 - 23.99	-	-	-	-	2	-	-	-	-	-	-	-	-	13	-
24.00 - 24.99	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-
25.00 - 25.99	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-
26.00 - 26.99	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-
28.00 - 28.99	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	4	-	2	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-

	<u>HSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PAH</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>
Total	1	128	24	49	18	1	28	2	5	6	170	262	4	118	227
Min. Length	5.94	4.37	15.08	8.31	15.91	53.94	17.32	15.16	5.12	15.87	6.26	6.10	6.30	8.58	5.20
Max. Length	5.94	18.54	34.65	13.78	37.80	53.94	22.09	16.14	8.27	25.43	17.91	20.24	10.63	24.06	19.02
Mean Length	5.94	12.73	27.34	11.94	23.68	53.94	18.81	15.65	6.47	18.56	10.19	15.87	9.10	19.54	11.23
# Measured	1	128	24	49	18	1	28	2	5	6	170	262	4	118	227
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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 SEF (for fish < 36.00 inches) (Continued)**

**Special sampling, electrofishing**

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
< 3.00	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	1
4.00 - 4.49	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	2
5.00 - 5.49	-	-	-	-	-	-
5.50 - 5.99	-	-	-	-	-	1
6.00 - 6.49	-	-	-	-	-	1
6.50 - 6.99	-	2	3	1	-	1
7.00 - 7.49	-	4	3	-	-	-
7.50 - 7.99	-	1	-	-	-	1
8.00 - 8.49	-	2	2	-	-	-
8.50 - 8.99	-	1	2	-	-	-
9.00 - 9.49	-	1	14	-	-	1
9.50 - 9.99	-	-	16	-	-	-
10.00 - 10.49	-	1	16	-	-	-
10.50 - 10.99	-	-	15	-	-	-
11.00 - 11.49	-	1	14	-	-	-
11.50 - 11.99	-	5	35	-	-	-
12.00 - 12.99	-	14	97	-	1	-
13.00 - 13.99	-	8	122	-	-	-
14.00 - 14.99	-	11	164	-	-	-
15.00 - 15.99	-	6	138	-	-	-
16.00 - 16.99	-	9	17	-	-	-
17.00 - 17.99	-	6	-	-	-	-
18.00 - 18.99	-	9	-	-	-	-
19.00 - 19.99	-	10	-	-	-	-
20.00 - 20.99	-	8	-	-	-	-
21.00 - 21.99	1	7	-	-	-	-
22.00 - 22.99	-	3	-	-	-	-
23.00 - 23.99	-	4	-	-	-	-
24.00 - 24.99	2	1	-	-	-	-
25.00 - 25.99	1	4	-	-	-	-
26.00 - 26.99	1	1	-	-	-	-
27.00 - 27.99	-	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	-	-	-	-	-	-

	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
Total	6	120	658	1	1	8
Min. Length	21.61	6.50	6.50	6.81	12.72	3.74
Max. Length	29.37	27.17	16.77	6.81	12.72	9.21
Mean Length	25.41	16.45	13.52	6.81	12.72	6.09
# Measured	6	120	658	1	1	8
No Lengths for	0	0	0	0	0	0

**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 SEF (for fish  $\geq$  36.00 inches)

Special sampling, electrofishing

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>AME</u>	<u>BIB</u>	<u>BKB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>CHL</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>
< 36.00	5	10	1	25	42	6	53	1	342	16	1	37	939	11	3
36.00 - 36.99	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
37.00 - 37.99	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
38.00 - 38.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39.00 - 39.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40.00 - 40.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41.00 - 41.99	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
42.00 - 42.99	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>AME</u>	<u>BIB</u>	<u>BKB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>CHL</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>
Total	6	11	1	25	42	6	53	1	343	16	1	39	939	11	3
Min. Length	21.46	18.90	19.13	7.40	3.54	16.69	20.59	14.13	16.02	10.87	10.24	7.99	7.36	6.30	13.27
Max. Length	37.40	37.80	19.13	11.54	9.06	27.76	26.77	14.13	36.22	27.05	10.24	42.91	28.03	18.74	16.65
Mean Length	26.56	22.95	19.13	9.71	6.69	23.05	23.51	14.13	24.46	21.55	10.24	17.17	13.49	12.71	15.03
# Measured	6	11	1	25	42	6	53	1	343	16	1	39	939	11	3
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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 SEF (for fish  $\geq$  36.00 inches) (Continued)**

**Special sampling, electrofishing**

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>HSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PAH</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>
< 36.00	1	128	24	49	17	-	28	2	5	6	170	262	4	118	227
36.00 - 36.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.00 - 37.99	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>HSF</u>	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PAH</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>
Total	1	128	24	49	18	1	28	2	5	6	170	262	4	118	227
Min. Length	5.94	4.37	15.08	8.31	15.91	53.94	17.32	15.16	5.12	15.87	6.26	6.10	6.30	8.58	5.20
Max. Length	5.94	18.54	34.65	13.78	37.80	53.94	22.09	16.14	8.27	25.43	17.91	20.24	10.63	24.06	19.02
Mean Length	5.94	12.73	27.34	11.94	23.68	53.94	18.81	15.65	6.47	18.56	10.19	15.87	9.10	19.54	11.23
# Measured	1	128	24	49	18	1	28	2	5	6	170	262	4	118	227
No Lengths for	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**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 SEF (for fish  $\geq$  36.00 inches) (Continued)**

**Special sampling, electrofishing**

(Field work conducted between 05/11/2015 and 10/06/2015)

	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
< 36.00	6	120	658	1	1	8
36.00 - 36.99	-	-	-	-	-	-
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	-	-	-	-	-	-

	<u>SNG</u>	<u>WAE</u>	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
Total	6	120	658	1	1	8
Min. Length	21.61	6.50	6.50	6.81	12.72	3.74
Max. Length	29.37	27.17	16.77	6.81	12.72	9.21
Mean Length	25.41	16.45	13.52	6.81	12.72	6.09
# Measured	6	120	658	1	1	8
No Lengths for	0	0	0	0	0	0

**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.

Approval Dates And Notices

Date Approved By Lake City Area Fisheries Supervisor: 11/06/2015

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

**This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 11/06/2015), and is therefore subject to change at any time.**



**MNDNR**

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.

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Lake Survey Report revision: 20150625-RJE. Data Date: 11/06/2015 at 3:13 pm .