

SECTION II

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
ENVIRONMENTAL MONITORING PROGRAM
2012 ANNUAL REPORT

SUMMARY OF THE 2012 FISH POPULATION STUDY

Report
by
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Environmental Services
Water Quality Department

SUMMARY OF THE 2012 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, 2012. 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 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 for each sector. 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. Representative species were selected in 1975 for abundance comparisons based on electrofishing data (Gustafson et. al. 1975), modified in 1986 after seining was eliminated (Donkers 1986), and in 1989 smallmouth and largemouth bass were added as they "have been seen more frequently in the electrofishing catch during recent years in the PINGP study area" (Mueller 1989). 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 2012 are compared to previous years in Table 1. A total of 5,632 fish, comprising 38 species, was collected in the 2012 survey (Table 2).

All species collected in 2012 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, carp
Pool 4;	freshwater drum, white bass, carp
Overall CPUE Average;	freshwater drum, shorthead redhorse, white bass

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.

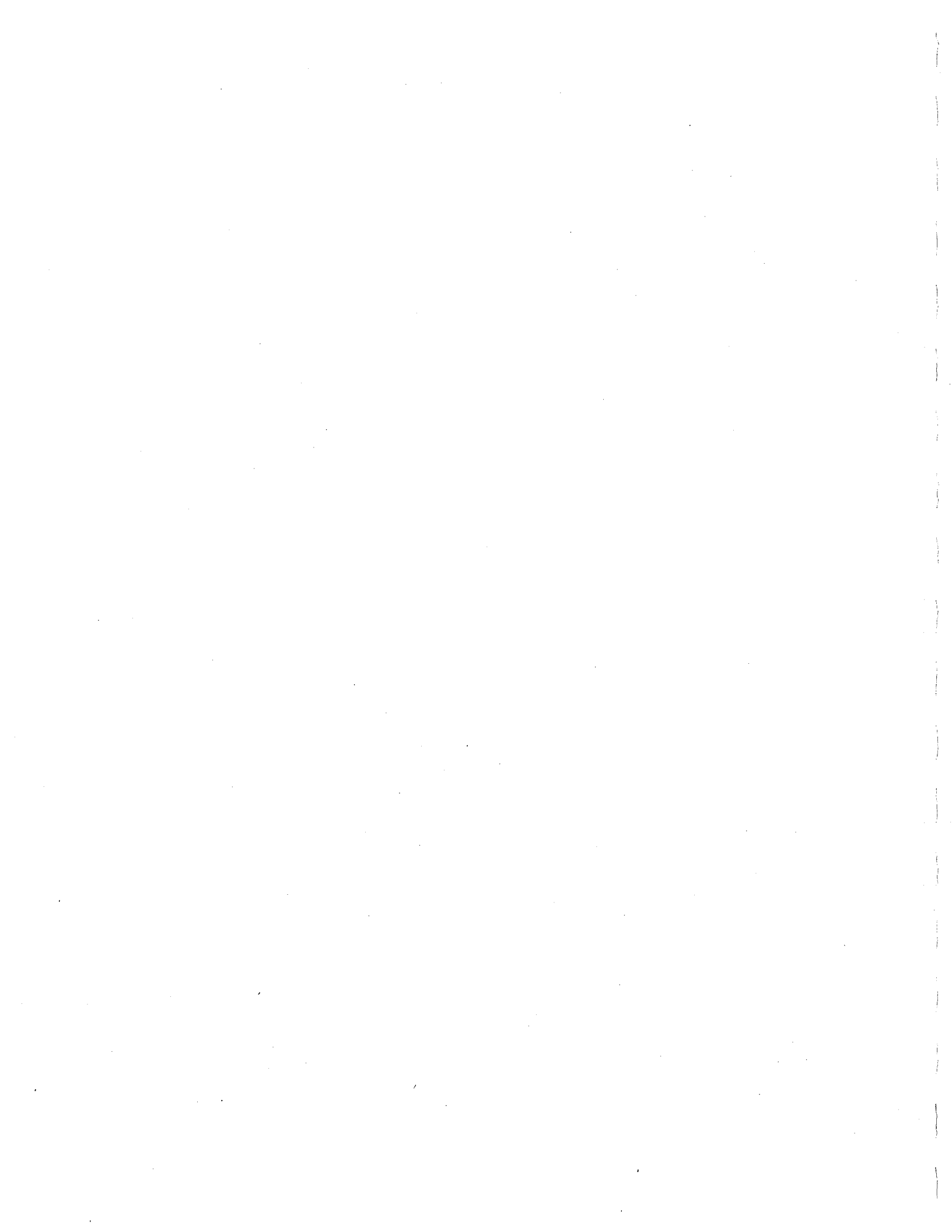
GENERAL

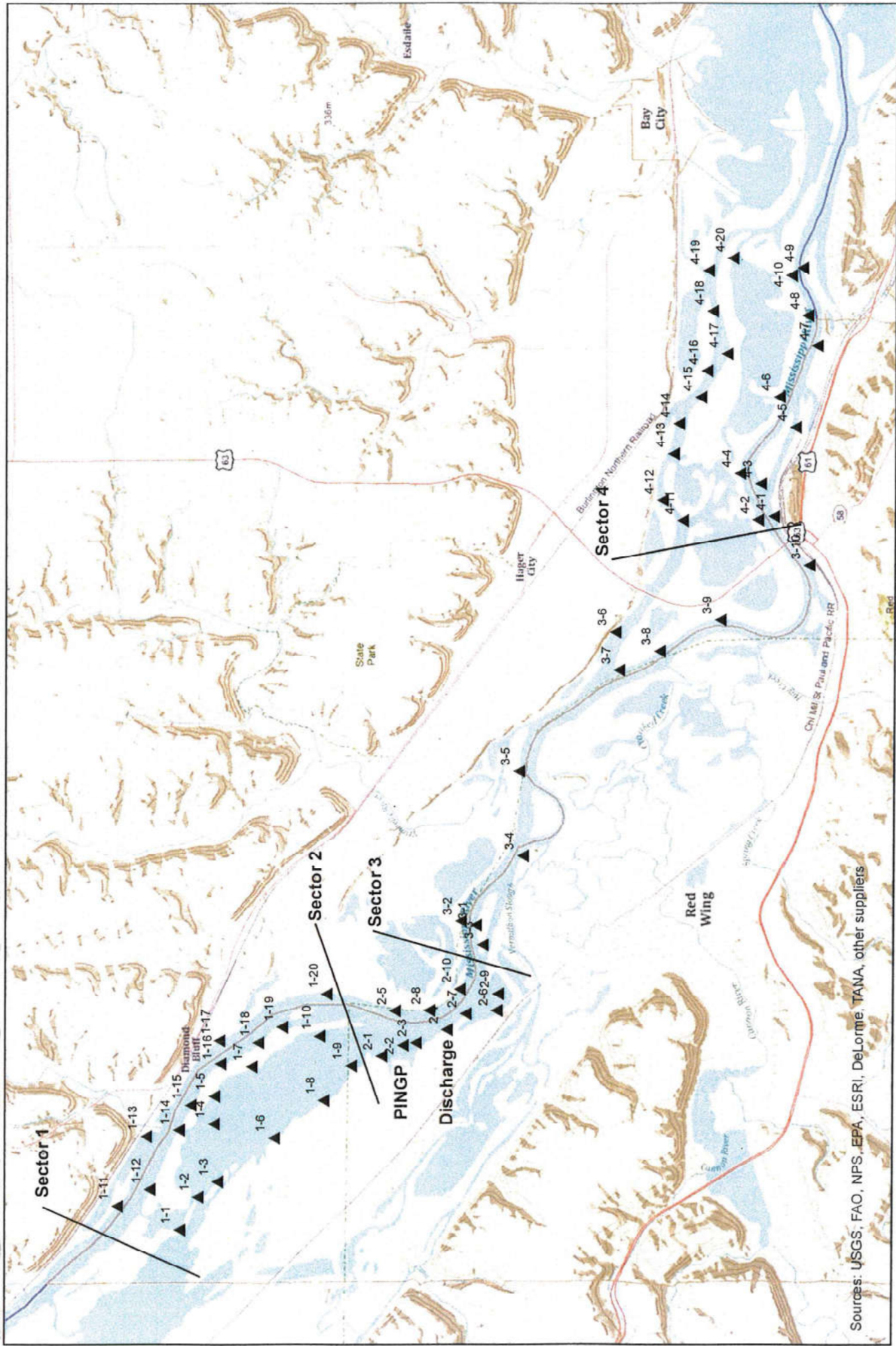
The ten most abundant species collected during 2012 in descending order, based on average CPUE for all sectors combined were: 1) freshwater drum, 2) shorthead redhorse, 3) white bass, 4) carp, 5) gizzard shad, 6) walleye, 7) smallmouth bass, 8) largemouth bass, 9) silver redhorse, and 10) bluegill (Table 2).

Total average CPUE for all species and pools combined for 2012 was 124.89 fish/hour (Table 2).

LITERATURE CITED

- Donkers, C. A. 1986. Summary of the 1986 fish population study. IN: Prairie Island Nuclear Generating Plant Environmental Monitoring Program 1985 Annual Report. Northern States Power Company, Minneapolis, MN.
- 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.
- Gustafson, S. P., J. L. Geise, and P. J. Diedrich. 1975. 1975 Progress Report on the Prairie Island Fish Population Study. IN: Environmental Monitoring and Ecological Studies Program, Prairie Island Nuclear Generating Plant, 1975 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. 1989. Summary of the 1989 fish population study. IN: Prairie Island Nuclear Generating Plant Environmental Monitoring Program 1989 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

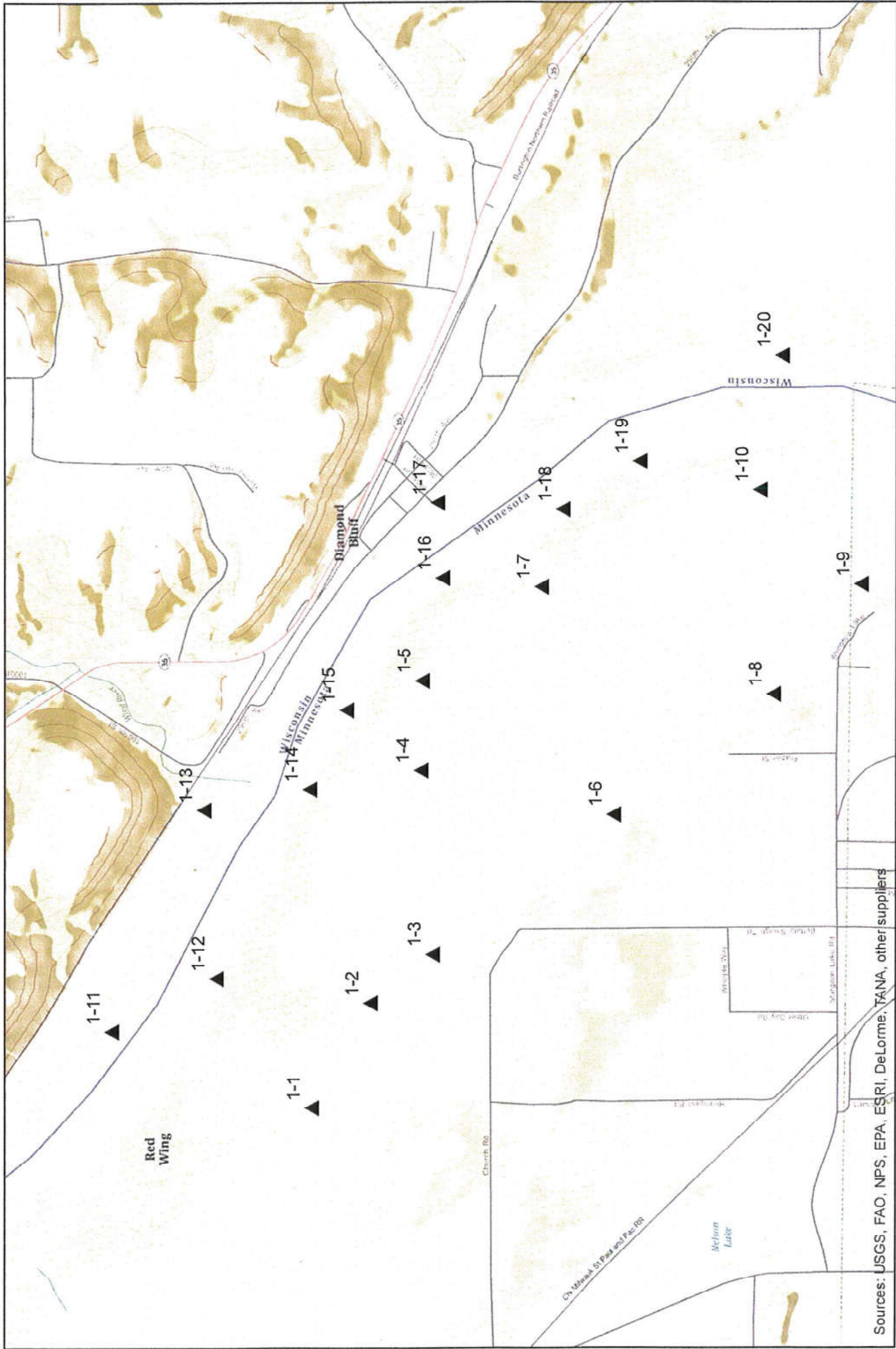
▲ Electrofishing Locations



Figure 1

Prairie Island Fisheries Population Survey – Study area





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

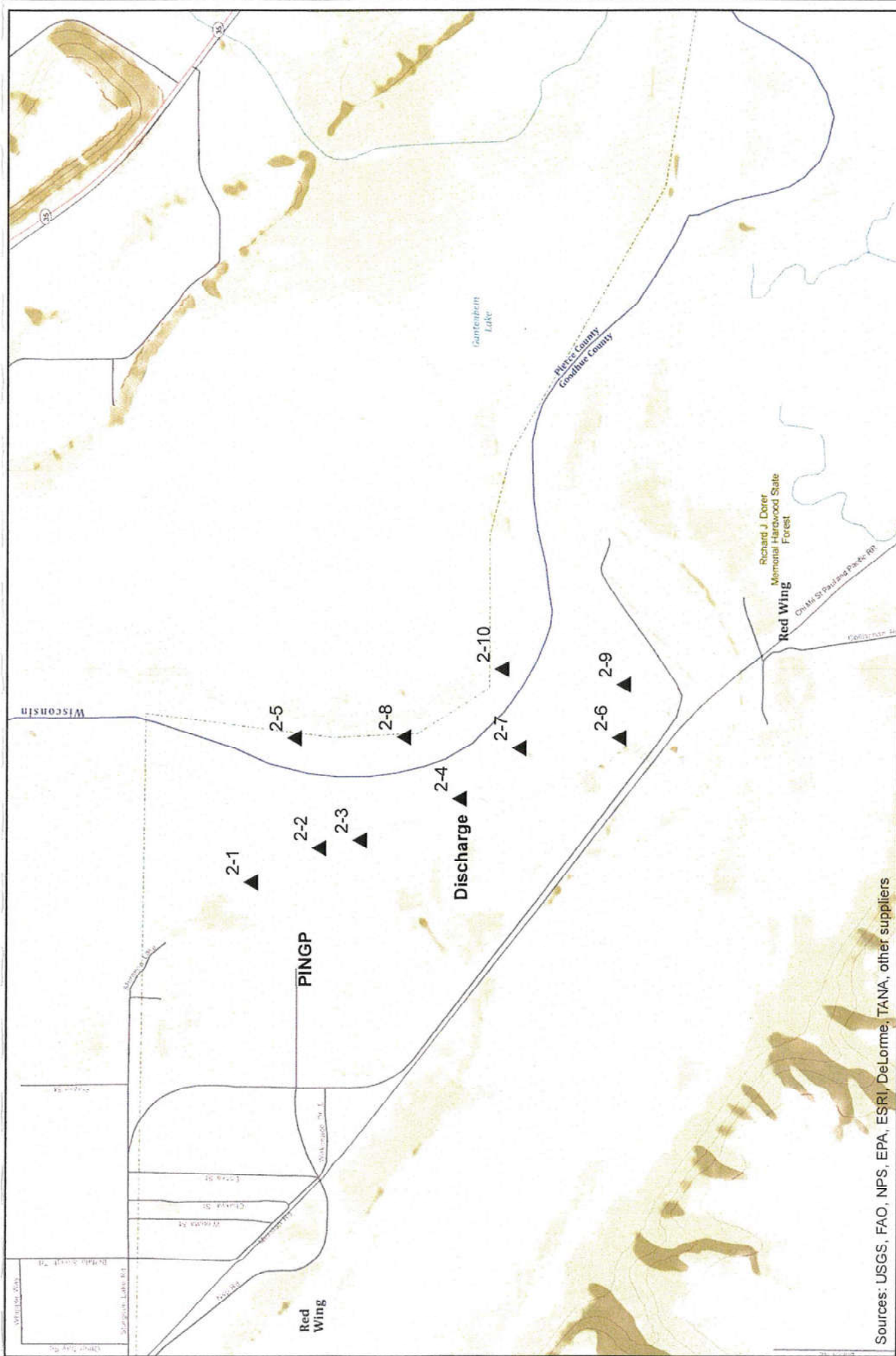


▲ Electrofishing Locations

Figure 2

Prairie Island Fisheries Population Survey – Upstream





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

▲ Electrofishing Locations

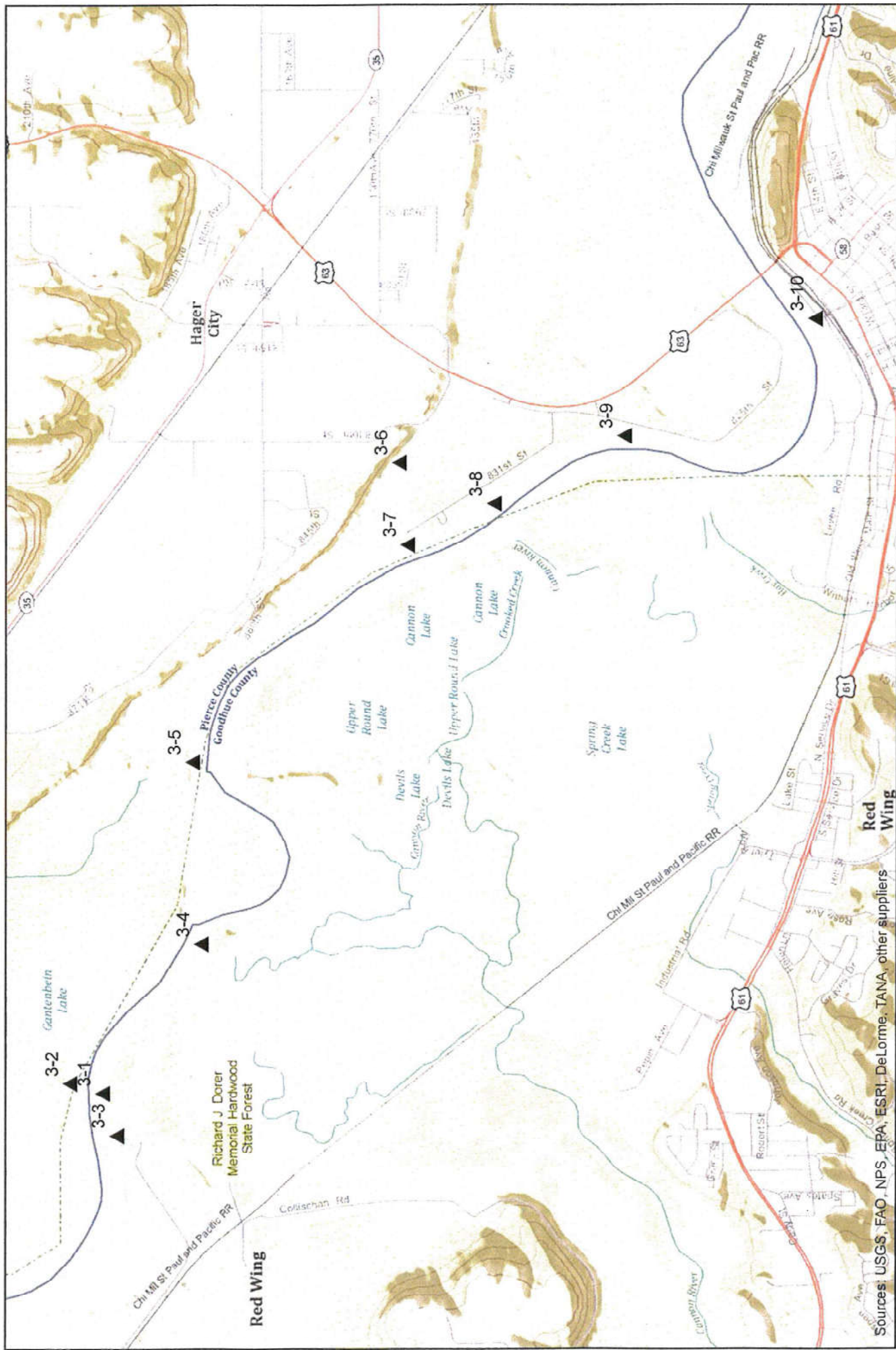


0 0.25 0.5 Miles

Figure 3

Prairie Island Fisheries Population Survey – Plant Area





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

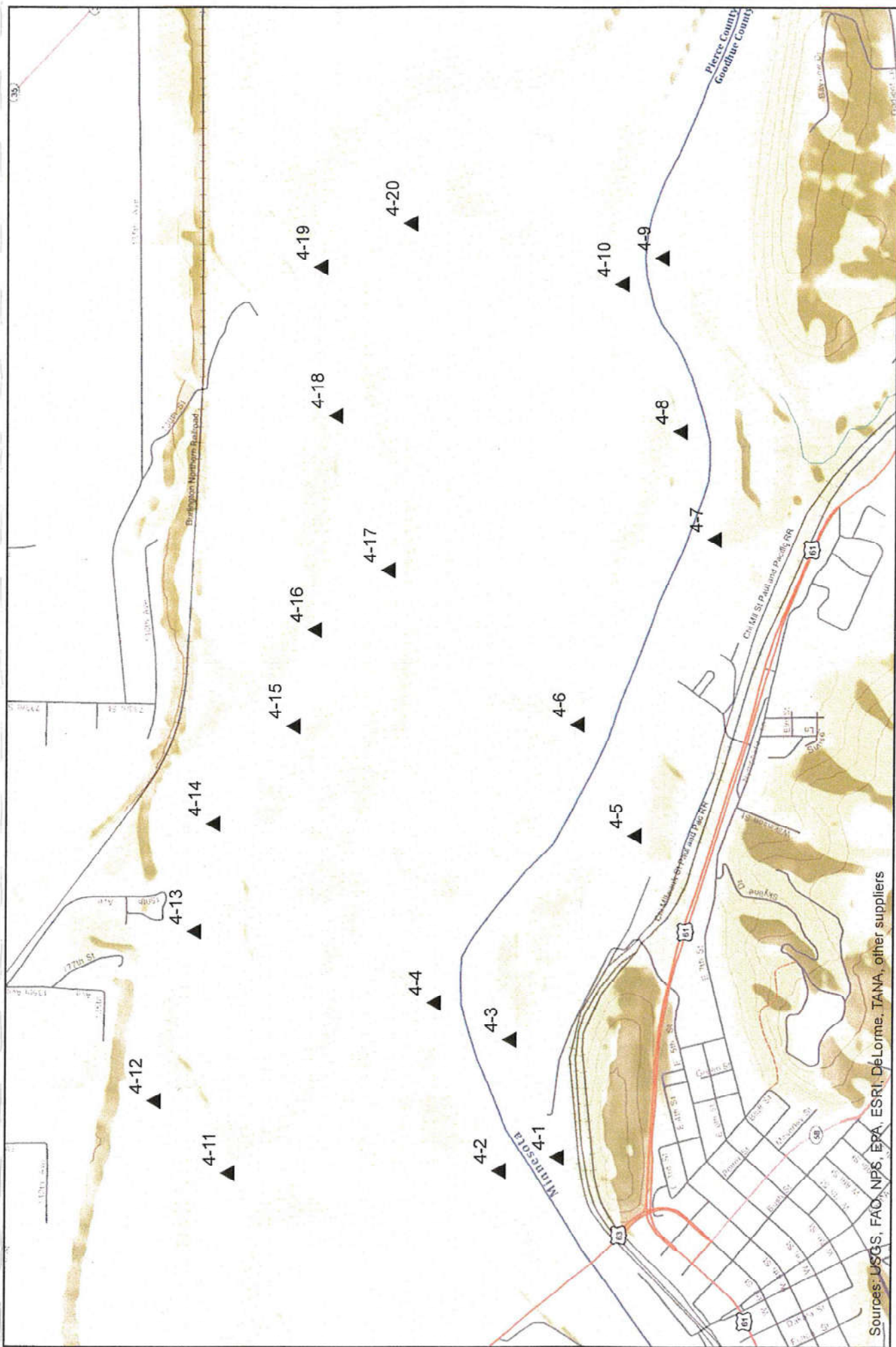
▲ Electrofishing Locations



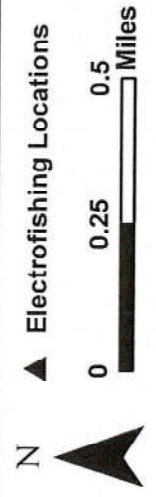
Figure 4

Prairie Island Fisheries Population Survey – Downstream





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



▲ Electrofishing Locations

Figure 5

Prairie Island Fisheries Population Survey – Downstream





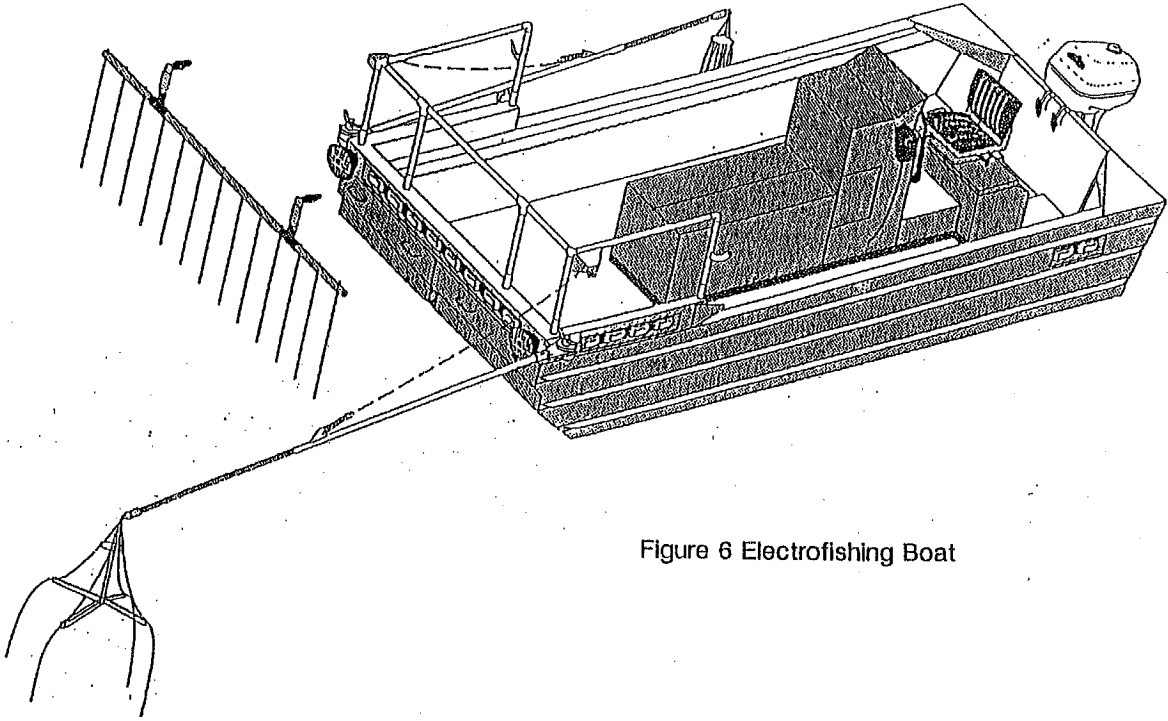


Figure 6 Electrofishing Boat

Table 2. Electrofishing CPUE (fish/hour) for each Mississippi River Pool in the vicinity of PINGP and total number of each species collected during 2012.

Species are listed in descending order according to average CPUE.

Rank	Species	Pool 3	Pool 4	Average	Number collected
1	Freshwater drum	23.11	25.13	24.12	1087
2	Shorthead redhorse	22.53	11.77	17.15	773
3	White bass	6.09	22.91	14.50	655
4	Carp	10.53	16.06	13.30	600
5	Gizzard shad	3.87	14.07	8.97	405
6	Walleye	5.29	9.95	7.62	344
7	Smallmouth bass	5.47	8.36	6.92	312
8	Largemouth bass	0.53	8.32	4.43	200
9	Silver redhorse	5.07	3.67	4.37	197
10	Bluegill	2.62	5.84	4.23	191
11	Sauger	2.27	6.10	4.19	189
12	Quillback	4.27	2.61	3.44	155
13	Smallmouth buffalo	2.44	0.71	1.58	71
14	Flathead catfish	1.16	1.95	1.56	69
15	Black crappie	0.44	2.48	1.46	66
16	Bowfin	0.04	2.17	1.11	50
17	Channel catfish	1.38	0.44	0.91	41
18	Longnose gar	1.11	0.40	0.76	34
19	Bigmouth buffalo	0.40	0.93	0.67	29
20	River carpsucker	0.76	0.27	0.52	23
21	Northern pike	0.13	0.84	0.49	22
22	Mooneye	0.44	0.31	0.38	17
23	Shortnose gar	0.36	0.27	0.32	14
24	Rock bass	0.40	0.18	0.29	13
25	Silver lamprey	0.18	0.35	0.27	12
26	White crappie	0.18	0.31	0.25	11
27	Yellow perch	0.27	0.18	0.23	10
28	Blue sucker	0.36	0.04	0.20	9
29	Hybrid sunfish	0.13	0.18	0.16	7
30	Green sunfish	0.27	0.00	0.14	6
31	Golden redhorse	0.09	0.13	0.11	5
32	River redhorse	0.22	0.00	0.11	5
33	Highfin carpsucker	0.04	0.09	0.07	3
34	Pumpkinseed	0.09	0.00	0.05	2
35	White sucker	0.00	0.09	0.05	2
36	American eel	0.00	0.04	0.02	1
37	Burbot	0.00	0.04	0.02	1
38	Saugeye	0.04	0.00	0.02	1
	Totals	102.58	147.19	124.89	5632

Table 3. Electrofishing Length-Weight regression for each species collected in 2012 in the vicinity of Prairie Island

<u>Species</u>	<u>Number Sampled</u>	<u>Y-Intercept</u>	<u>Slope</u>	<u>r²</u>
1 American eel	1			
2 bigmouth buffalo	29	-4.3700	2.8662	0.9830
3 black crappie	66	-5.0599	3.1143	0.9484
4 blue sucker	9	-10.0824	4.8097	0.3800
5 bluegill	191	-6.6533	3.8985	0.9503
6 bowfin (dogfish)	50	-4.6585	2.8558	0.9369
7 burbot	1			
8 channel catfish	41	-5.5101	3.1856	0.9855
9 common carp	600	-4.8696	3.0050	0.9823
10 flathead catfish	69	-5.2028	3.0912	0.9802
11 freshwater drum	1087	-5.2463	3.1349	0.9592
12 gizzard shad	405	-5.0764	3.0451	0.9808
13 golden redhorse	5	-5.3913	3.1848	0.9919
14 green sunfish	6	-1.6000	1.4573	0.9160
15 highfin carpsucker	3	-6.8911	3.8102	0.9998
16 hybrid sunfish	7	-6.1451	3.6755	0.9151
17 largemouth bass	200	-5.3805	3.2253	0.9852
18 longnose gar	34	-7.3980	3.6073	0.9387
19 mooneye	17	-5.6528	3.2677	0.9830
20 northern pike	22	-5.1357	2.9640	0.9625
21 pumpkinseed	2	-9.6357	5.3417	1.0000
22 quillback	155	-4.6553	2.9237	0.9669
23 river carpsucker	23	-4.6249	2.9203	0.9477
24 river redhorse	5	-5.8093	3.3136	0.9884
25 rock bass	13	-5.3839	3.3057	0.7762
26 sauger	189	-5.4874	3.1520	0.9500
27 shorthead redhorse	773	-5.0705	3.0364	0.9652
28 shortnose gar	14	-5.0790	2.8637	0.8068
29 silver lamprey	12	-3.9212	2.3080	0.8854
30 silver redhorse	197	-4.8660	2.9799	0.9815
31 smallmouth bass	312	-5.0417	3.0705	0.9801
32 smallmouth buffalo	71	-4.6141	2.9387	0.9631
33 walleye	344	-5.3344	3.1160	0.9838
34 walleye/sauger	1			
35 white bass	655	-4.7854	2.9553	0.9603
36 white crappie	11	-3.5239	2.4754	0.9851
37 white sucker	2	-5.7187	3.3013	1.0000
38 yellow perch	10	-4.7103	2.9363	0.8579

Attachment 1: Pool 3



Minnesota Department of Natural Resources
 Fisheries Management
 STANDARD LAKE SURVEY REPORT



Lake Name: U.S. Lock & Dam #3
 DOW Number: 25-0017-00

Survey Type: External Management Survey
 Survey ID Date: 05/01/2012

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID:
 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):	2569.83	Maximum Fetch (miles):	N/A
DOW Lake Area (acres):	7426.00	Fetch Orientation (degrees):	N/A
Littoral Area (acres):	0.00	USGS Quad Map Number:	T19b
Area in MN (acres):	1548.92	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

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Surveys And Investigations

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

Population Assessment: 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: 03/27/2012, 09/23/2008, 11/14/2006, 10/23/2006.

Natural Reproduction Check: 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: 05/01/2012, 05/01/2011.

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Natural Reproduction Catch Summary for SEF

Special sampling, electrofishing

Total run-time for all stations: 49999999:57:00

Total on-time for all stations: 22:30:21

First Sampling Date: 05/16/2012

Last Sampling Date: 10/19/2012

Daylight Sampling: Yes

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
BIB	Bigmouth Buffalo	All	9	9	19.77	13.78	25.67	0.00	0.40
BLC	Black Crappie	All	10	10	9.68	3.94	13.43	0.00	0.44
BLS	Blue Sucker	All	8	8	26.53	25.75	27.48	0.00	0.36
BLG	Bluegill	All	59	59	5.23	2.80	8.11	0.00	2.62
BOF	Bowfin (Dogfish)	All	1	1	19.49	19.49	19.49	0.00	0.04
CCF	Channel Catfish	All	31	31	18.25	5.55	25.39	0.00	1.38
CAP	Common Carp	All	237	237	20.42	4.84	32.20	0.00	10.53
FCF	Flathead Catfish	All	26	26	14.92	6.93	46.06	0.00	1.16
FRD	Freshwater Drum	All	520	520	13.38	8.15	30.51	0.00	23.11
GIS	Gizzard Shad	All	87	87	11.13	7.52	18.58	0.00	3.87
GLR	Golden Redhorse	All	2	2	15.91	15.43	16.38	0.00	0.09
GSF	Green Sunfish	All	6	6	4.18	2.24	5.51	0.00	0.27
HFS	Highfin Carpsucker	All	1	1	13.50	13.50	13.50	0.00	0.04
HSF	Hybrid Sunfish	All	3	3	5.96	4.76	7.99	0.00	0.13
LMB	Largemouth Bass	All	12	12	11.51	5.59	15.59	0.00	0.53
LNG	Longnose Gar	All	25	25	31.26	26.97	47.64	0.00	1.11
MOE	Mooneye	All	10	10	12.72	11.81	14.13	0.00	0.44
NOP	Northern Pike	All	3	3	17.66	10.24	29.92	0.00	0.13
PMK	Pumpkinseed	All	2	2	5.57	5.00	6.14	0.00	0.09
QBS	Quillback	All	96	96	17.69	9.65	22.13	0.00	4.27
RCS	River Carpsucker	All	17	17	18.38	14.76	23.46	0.00	0.76
RRH	River Redhorse	All	5	5	24.53	20.31	28.31	0.00	0.22
RKB	Rock Bass	All	9	9	4.96	4.17	6.46	0.00	0.40
SAR	Sauger	All	51	51	12.83	6.69	19.29	0.00	2.27
SHR	Shorthead Redhorse	All	507	507	14.95	5.87	20.51	0.00	22.53
SNG	Shortnose Gar	All	8	8	25.25	22.28	28.54	0.00	0.36
SIL	Silver Lamprey	All	4	4	9.69	7.68	11.42	0.00	0.18
SLR	Silver Redhorse	All	114	114	19.66	9.76	24.69	0.00	5.07
SMB	Smallmouth Bass	All	123	123	10.87	4.76	17.44	0.00	5.47
SAB	Smallmouth Buffalo	All	55	55	21.76	15.94	26.18	0.00	2.44
WAE	Walleye	All	119	119	17.13	6.14	27.64	0.00	5.29
WAS	Walleye/Sauger	All	1	1	20.87	20.87	20.87	0.00	0.04
WHB	White Bass	All	137	137	13.08	6.38	17.01	0.00	6.09
WHC	White Crappie	All	4	4	12.19	11.10	13.39	0.00	0.18
YEP	Yellow Perch	All	6	6	6.52	5.55	8.07	0.00	0.27

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

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

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
< 3.00	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	1	6	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	10	-	-	-	-	-	-	-	-	3	-	-	-
4.50 - 4.99	-	-	11	-	-	1	-	-	-	-	-	1	-	1	-
5.00 - 5.49	-	-	13	-	-	-	-	-	-	-	-	-	-	1	-
5.50 - 5.99	-	-	5	-	-	-	1	-	-	-	-	1	-	-	1
6.00 - 6.49	-	-	3	-	-	-	1	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-
7.00 - 7.49	-	-	4	-	-	-	-	3	-	-	-	-	-	-	-
7.50 - 7.99	-	1	2	-	-	-	-	-	-	2	-	-	-	1	-
8.00 - 8.49	-	1	1	-	-	-	-	1	2	3	-	-	-	-	-
8.50 - 8.99	-	1	-	-	-	-	-	2	1	7	-	-	-	-	1
9.00 - 9.49	-	1	-	-	-	-	-	1	5	5	-	-	-	-	1
9.50 - 9.99	-	-	-	-	-	-	-	1	5	7	-	-	-	-	1
10.00 - 10.49	-	1	-	-	-	-	-	1	19	11	-	-	-	-	1
10.50 - 10.99	-	1	-	-	-	-	-	3	50	7	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	2	-	-	56	11	-	-	-	-	-
11.50 - 11.99	-	1	-	-	-	3	1	-	53	6	-	-	-	-	-
12.00 - 12.99	-	1	-	-	-	13	-	1	108	21	-	-	-	-	3
13.00 - 13.99	1	1	-	-	-	18	-	-	68	2	-	-	1	-	2
14.00 - 14.99	-	-	-	-	-	17	1	2	41	-	-	-	-	-	1
15.00 - 15.99	-	-	-	-	-	15	2	1	32	2	1	-	-	-	1
16.00 - 16.99	1	-	-	-	-	12	4	-	19	2	1	-	-	-	-
17.00 - 17.99	2	-	-	-	-	17	6	1	19	-	-	-	-	-	-
18.00 - 18.99	2	-	-	-	-	10	2	-	15	1	-	-	-	-	-
19.00 - 19.99	-	-	-	-	1	4	1	1	9	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	8	3	3	6	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	8	2	-	6	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	7	3	1	1	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	19	1	2	1	-	-	-	-	-	-
24.00 - 24.99	1	-	-	-	-	16	-	-	1	-	-	-	-	-	-
25.00 - 25.99	2	-	-	1	-	27	3	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	5	-	17	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	2	-	7	-	-	1	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
Total	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
Min. Length	13.78	3.94	2.80	25.75	19.49	4.84	5.55	6.93	8.15	7.52	15.43	2.24	13.50	4.76	5.59
Max. Length	25.67	13.43	8.11	27.48	19.49	32.20	25.39	46.06	30.51	18.58	16.38	5.51	13.50	7.99	15.59
Mean Length	19.77	9.68	5.23	26.53	19.49	20.42	18.25	14.92	13.38	11.13	15.91	4.18	13.50	5.96	11.51
# Measured	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
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



Minnesota Department of Natural Resources
 Fisheries Management
 STANDARD LAKE SURVEY REPORT



Lake Name: U.S. Lock & Dam #3
 DOW Number: 25-0017-00

Survey Type: External Management Survey
 Survey ID Date: 05/01/2012

Lake Identification

Alternate Lake Name: N/A
 Primary Lake Class ID:
 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):	2569.83	Maximum Fetch (miles):	N/A
DOW Lake Area (acres):	7426.00	Fetch Orientation (degrees):	N/A
Littoral Area (acres):	0.00	USGS Quad Map Number:	T19b
Area in MN (acres):	1548.92	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

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Surveys And Investigations

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

Population Assessment: 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: 03/27/2012, 09/23/2008, 11/14/2006, 10/23/2006.

Natural Reproduction Check: 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: 05/01/2012, 05/01/2011.

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Natural Reproduction Catch Summary for SEF

Special sampling, electrofishing

Total run-time for all stations: 49999999:57:00

Total on-time for all stations: 22:30:21

First Sampling Date: 05/16/2012

Last Sampling Date: 10/19/2012

Daylight Sampling: Yes

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
BIB	Bigmouth Buffalo	All	9	9	19.77	13.78	25.67	0.00	0.40
BLC	Black Crappie	All	10	10	9.68	3.94	13.43	0.00	0.44
BLS	Blue Sucker	All	8	8	26.53	25.75	27.48	0.00	0.36
BLG	Bluegill	All	59	59	5.23	2.80	8.11	0.00	2.62
BOF	Bowfin (Dogfish)	All	1	1	19.49	19.49	19.49	0.00	0.04
CCF	Channel Catfish	All	31	31	18.25	5.55	25.39	0.00	1.38
CAP	Common Carp	All	237	237	20.42	4.84	32.20	0.00	10.53
FCF	Flathead Catfish	All	26	26	14.92	6.93	46.06	0.00	1.16
FRD	Freshwater Drum	All	520	520	13.38	8.15	30.51	0.00	23.11
GIS	Gizzard Shad	All	87	87	11.13	7.52	18.58	0.00	3.87
GLR	Golden Redhorse	All	2	2	15.91	15.43	16.38	0.00	0.09
GSF	Green Sunfish	All	6	6	4.18	2.24	5.51	0.00	0.27
HFS	Highfin Carpsucker	All	1	1	13.50	13.50	13.50	0.00	0.04
HSF	Hybrid Sunfish	All	3	3	5.96	4.76	7.99	0.00	0.13
LMB	Largemouth Bass	All	12	12	11.51	5.59	15.59	0.00	0.53
LNG	Longnose Gar	All	25	25	31.26	26.97	47.64	0.00	1.11
MOE	Mooneye	All	10	10	12.72	11.81	14.13	0.00	0.44
NOP	Northern Pike	All	3	3	17.66	10.24	29.92	0.00	0.13
PMK	Pumpkinseed	All	2	2	5.57	5.00	6.14	0.00	0.09
QBS	Quillback	All	96	96	17.69	9.65	22.13	0.00	4.27
RCS	River Carpsucker	All	17	17	18.38	14.76	23.46	0.00	0.76
RRH	River Redhorse	All	5	5	24.53	20.31	28.31	0.00	0.22
RKB	Rock Bass	All	9	9	4.96	4.17	6.46	0.00	0.40
SAR	Sauger	All	51	51	12.83	6.69	19.29	0.00	2.27
SHR	Shorthead Redhorse	All	507	507	14.95	5.87	20.51	0.00	22.53
SNG	Shortnose Gar	All	8	8	25.25	22.28	28.54	0.00	0.36
SIL	Silver Lamprey	All	4	4	9.69	7.68	11.42	0.00	0.18
SLR	Silver Redhorse	All	114	114	19.66	9.76	24.69	0.00	5.07
SMB	Smallmouth Bass	All	123	123	10.87	4.76	17.44	0.00	5.47
SAB	Smallmouth Buffalo	All	55	55	21.76	15.94	26.18	0.00	2.44
WAE	Walleye	All	119	119	17.13	6.14	27.64	0.00	5.29
WAS	Walleye/Sauger	All	1	1	20.87	20.87	20.87	0.00	0.04
WHB	White Bass	All	137	137	13.08	6.38	17.01	0.00	6.09
WHC	White Crappie	All	4	4	12.19	11.10	13.39	0.00	0.18
YEP	Yellow Perch	All	6	6	6.52	5.55	8.07	0.00	0.27

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

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

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
< 3.00	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	1	6	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	10	-	-	-	-	-	-	-	-	3	-	-	-
4.50 - 4.99	-	-	11	-	-	1	-	-	-	-	-	1	-	1	-
5.00 - 5.49	-	-	13	-	-	-	-	-	-	-	-	-	-	1	-
5.50 - 5.99	-	-	5	-	-	-	1	-	-	-	-	1	-	-	1
6.00 - 6.49	-	-	3	-	-	-	1	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	3	-	-	-	-	1	-	-	-	-	-	-	-
7.00 - 7.49	-	-	4	-	-	-	-	3	-	-	-	-	-	-	-
7.50 - 7.99	-	1	2	-	-	-	-	-	-	2	-	-	-	1	-
8.00 - 8.49	-	1	1	-	-	-	-	1	2	3	-	-	-	-	-
8.50 - 8.99	-	1	-	-	-	-	-	2	1	7	-	-	-	-	1
9.00 - 9.49	-	1	-	-	-	-	-	1	5	5	-	-	-	-	1
9.50 - 9.99	-	-	-	-	-	-	-	1	5	7	-	-	-	-	1
10.00 - 10.49	-	1	-	-	-	-	-	1	19	11	-	-	-	-	1
10.50 - 10.99	-	1	-	-	-	-	-	3	50	7	-	-	-	-	-
11.00 - 11.49	-	-	-	-	-	2	-	-	56	11	-	-	-	-	-
11.50 - 11.99	-	1	-	-	-	3	1	-	53	6	-	-	-	-	-
12.00 - 12.99	-	1	-	-	-	13	-	1	108	21	-	-	-	-	3
13.00 - 13.99	1	1	-	-	-	18	-	-	68	2	-	-	1	-	2
14.00 - 14.99	-	-	-	-	-	17	1	2	41	-	-	-	-	-	1
15.00 - 15.99	-	-	-	-	-	15	2	1	32	2	1	-	-	-	1
16.00 - 16.99	1	-	-	-	-	12	4	-	19	2	1	-	-	-	-
17.00 - 17.99	2	-	-	-	-	17	6	1	19	-	-	-	-	-	-
18.00 - 18.99	2	-	-	-	-	10	2	-	15	1	-	-	-	-	-
19.00 - 19.99	-	-	-	-	1	4	1	1	9	-	-	-	-	-	-
20.00 - 20.99	-	-	-	-	-	8	3	3	6	-	-	-	-	-	-
21.00 - 21.99	-	-	-	-	-	8	2	-	6	-	-	-	-	-	-
22.00 - 22.99	-	-	-	-	-	7	3	1	1	-	-	-	-	-	-
23.00 - 23.99	-	-	-	-	-	19	1	2	1	-	-	-	-	-	-
24.00 - 24.99	1	-	-	-	-	16	-	-	1	-	-	-	-	-	-
25.00 - 25.99	2	-	-	1	-	27	3	-	-	-	-	-	-	-	-
26.00 - 26.99	-	-	-	5	-	17	-	-	-	-	-	-	-	-	-
27.00 - 27.99	-	-	-	2	-	7	-	-	1	-	-	-	-	-	-
28.00 - 28.99	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
30.00 - 30.99	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-
31.00 - 31.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
32.00 - 32.99	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
Total	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
Min. Length	13.78	3.94	2.80	25.75	19.49	4.84	5.55	6.93	8.15	7.52	15.43	2.24	13.50	4.76	5.59
Max. Length	25.67	13.43	8.11	27.48	19.49	32.20	25.39	46.06	30.51	18.58	16.38	5.51	13.50	7.99	15.59
Mean Length	19.77	9.68	5.23	26.53	19.49	20.42	18.25	14.92	13.38	11.13	15.91	4.18	13.50	5.96	11.51
# Measured	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

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

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PMK</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-	-	4	-	-	-	-	-	-	1	-
5.00 - 5.49	-	-	-	1	-	-	-	-	-	-	-	-	-	3	-
5.50 - 5.99	-	-	-	-	-	-	2	-	-	1	-	-	-	4	-
6.00 - 6.49	-	-	-	1	-	-	1	-	-	2	-	-	-	-	-
6.50 - 6.99	-	-	-	-	-	-	-	-	1	2	-	-	-	10	-
7.00 - 7.49	-	-	-	-	-	-	-	-	4	-	-	-	-	9	-
7.50 - 7.99	-	-	-	-	-	-	-	-	-	1	1	-	-	4	-
8.00 - 8.49	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
8.50 - 8.99	-	-	-	-	-	-	-	-	-	3	-	-	-	2	-
9.00 - 9.49	-	-	-	-	-	-	-	-	-	7	1	-	-	3	-
9.50 - 9.99	-	-	-	-	1	-	-	-	-	2	-	1	-	4	-
10.00 - 10.49	-	-	1	-	-	-	-	-	1	4	-	-	-	12	-
10.50 - 10.99	-	-	-	-	-	-	-	-	1	3	1	1	1	9	-
11.00 - 11.49	-	-	-	-	3	-	-	-	2	9	1	1	1	5	-
11.50 - 11.99	-	2	-	-	-	-	-	-	6	7	-	-	-	6	-
12.00 - 12.99	-	5	1	-	1	-	-	-	13	30	-	2	9	-	-
13.00 - 13.99	-	1	-	-	1	-	-	-	10	57	-	2	8	-	-
14.00 - 14.99	-	2	-	-	1	1	-	-	6	84	-	6	12	-	-
15.00 - 15.99	-	-	-	-	9	2	-	-	1	3	139	-	4	10	-
16.00 - 16.99	-	-	-	-	17	2	-	-	2	-	99	-	4	3	-
17.00 - 17.99	-	-	-	-	16	3	-	-	1	37	-	9	3	-	-
18.00 - 18.99	-	-	-	-	17	2	-	-	5	1	16	-	9	-	-
19.00 - 19.99	-	-	-	-	21	3	-	-	2	2	3	-	16	-	-
20.00 - 20.99	-	-	-	-	6	2	-	1	9	-	1	-	13	-	-
21.00 - 21.99	-	-	-	-	2	-	-	1	9	-	-	-	14	-	-
22.00 - 22.99	-	-	-	-	1	1	-	-	10	-	-	-	19	-	1
23.00 - 23.99	-	-	-	-	-	1	-	-	8	-	-	-	8	-	2
24.00 - 24.99	-	-	-	-	-	-	-	-	5	-	-	-	5	-	-
25.00 - 25.99	-	-	-	-	-	-	-	1	3	-	-	-	-	-	2
26.00 - 26.99	1	-	-	-	-	-	-	-	1	-	-	-	-	-	2
27.00 - 27.99	3	-	-	-	-	-	-	1	-	-	-	-	-	-	-
28.00 - 28.99	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1
29.00 - 29.99	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-
30.00 - 30.99	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.00 - 31.99	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.00 - 32.99	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= > 36.00	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PMK</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>
Total	25	10	3	2	96	17	9	5	55	51	507	4	114	123	8
Min. Length	26.97	11.81	10.24	5.00	9.65	14.76	4.17	20.31	15.94	6.69	5.87	7.68	9.76	4.76	22.28
Max. Length	47.64	14.13	29.92	6.14	22.13	23.46	6.46	28.31	26.18	19.29	20.51	11.42	24.69	17.44	28.54
Mean Length	31.26	12.72	17.66	5.57	17.69	18.38	4.96	24.53	21.76	12.83	14.95	9.69	19.66	10.87	25.25
# Measured	25	10	3	2	96	17	9	5	55	51	507	4	114	123	8
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

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

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>WAE</u>	<u>WAS</u>	<u>WHB</u>	<u>WHC</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	-	-	-	-	2
6.00 - 6.49	1	-	1	-	1
6.50 - 6.99	1	-	3	-	2
7.00 - 7.49	3	-	3	-	-
7.50 - 7.99	3	-	5	-	-
8.00 - 8.49	1	-	-	-	1
8.50 - 8.99	4	-	-	-	-
9.00 - 9.49	1	-	-	-	-
9.50 - 9.99	2	-	2	-	-
10.00 - 10.49	-	-	5	-	-
10.50 - 10.99	-	-	2	-	-
11.00 - 11.49	-	-	6	1	-
11.50 - 11.99	-	-	4	1	-
12.00 - 12.99	4	-	25	1	-
13.00 - 13.99	2	-	26	1	-
14.00 - 14.99	5	-	30	-	-
15.00 - 15.99	13	-	17	-	-
16.00 - 16.99	20	-	7	-	-
17.00 - 17.99	16	-	1	-	-
18.00 - 18.99	9	-	-	-	-
19.00 - 19.99	6	-	-	-	-
20.00 - 20.99	4	1	-	-	-
21.00 - 21.99	6	-	-	-	-
22.00 - 22.99	2	-	-	-	-
23.00 - 23.99	5	-	-	-	-
24.00 - 24.99	4	-	-	-	-
25.00 - 25.99	1	-	-	-	-
26.00 - 26.99	3	-	-	-	-
27.00 - 27.99	3	-	-	-	-
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>WAE</u>	<u>WAS</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
Total	119	1	137	4	6
Min. Length	6.14	20.87	6.38	11.10	5.55
Max. Length	27.64	20.87	17.01	13.39	8.07
Mean Length	17.13	20.87	13.08	12.19	6.52
# Measured	119	1	137	4	6
No Lengths for	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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Length Frequency Distribution For SEF (for fish \geq 36.00 inches)

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
< 36.00	9	10	59	8	1	237	31	25	520	87	2	6	1	3	12
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	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
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>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>GSF</u>	<u>HFS</u>	<u>HSF</u>	<u>LMB</u>
Total	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
Min. Length	13.78	3.94	2.80	25.75	19.49	4.84	5.55	6.93	8.15	7.52	15.43	2.24	13.50	4.76	5.59
Max. Length	25.67	13.43	8.11	27.48	19.49	32.20	25.39	46.06	30.51	18.58	16.38	5.51	13.50	7.99	15.59
Mean Length	19.77	9.68	5.23	26.53	19.49	20.42	18.25	14.92	13.38	11.13	15.91	4.18	13.50	5.96	11.51
# Measured	9	10	59	8	1	237	31	26	520	87	2	6	1	3	12
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Length Frequency Distribution For SEF (for fish \geq 36.00 inches) (Continued)

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>LNG</u>	<u>MOE</u>	<u>NOP</u>	<u>PMK</u>	<u>QBS</u>	<u>RCS</u>	<u>RKB</u>	<u>RRH</u>	<u>SAB</u>	<u>SAR</u>	<u>SHR</u>	<u>SIL</u>	<u>SLR</u>	<u>SMB</u>	<u>SNG</u>
< 36.00	23	10	3	2	96	17	9	5	55	51	507	4	114	123	8
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	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	25	10	3	2	96	17	9	5	55	51	507	4	114	123	8
Min. Length	26.97	11.81	10.24	5.00	9.65	14.76	4.17	20.31	15.94	6.69	5.87	7.68	9.76	4.76	22.28
Max. Length	47.64	14.13	29.92	6.14	22.13	23.46	6.46	28.31	26.18	19.29	20.51	11.42	24.69	17.44	28.54
Mean Length	31.26	12.72	17.66	5.57	17.69	18.38	4.96	24.53	21.76	12.83	14.95	9.69	19.66	10.87	25.25
# Measured	25	10	3	2	96	17	9	5	55	51	507	4	114	123	8
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 25-0017-00

Length Frequency Distribution For SEF (for fish \geq 36.00 inches) (Continued)

Special sampling, electrofishing

(Field work conducted between 05/16/2012 and 10/19/2012)

	<u>WAE</u>	<u>WAS</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
< 36.00	119	1	137	4	6
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>WAE</u>	<u>WAS</u>	<u>WHB</u>	<u>WHC</u>	<u>YEP</u>
Total	119	1	137	4	6
Min. Length	6.14	20.87	6.38	11.10	5.55
Max. Length	27.64	20.87	17.01	13.39	8.07
Mean Length	17.13	20.87	13.08	12.19	6.52
# Measured	119	1	137	4	6
No Lengths for	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: 04/16/2013

Date Approved By Central Region Fisheries Manager: _____

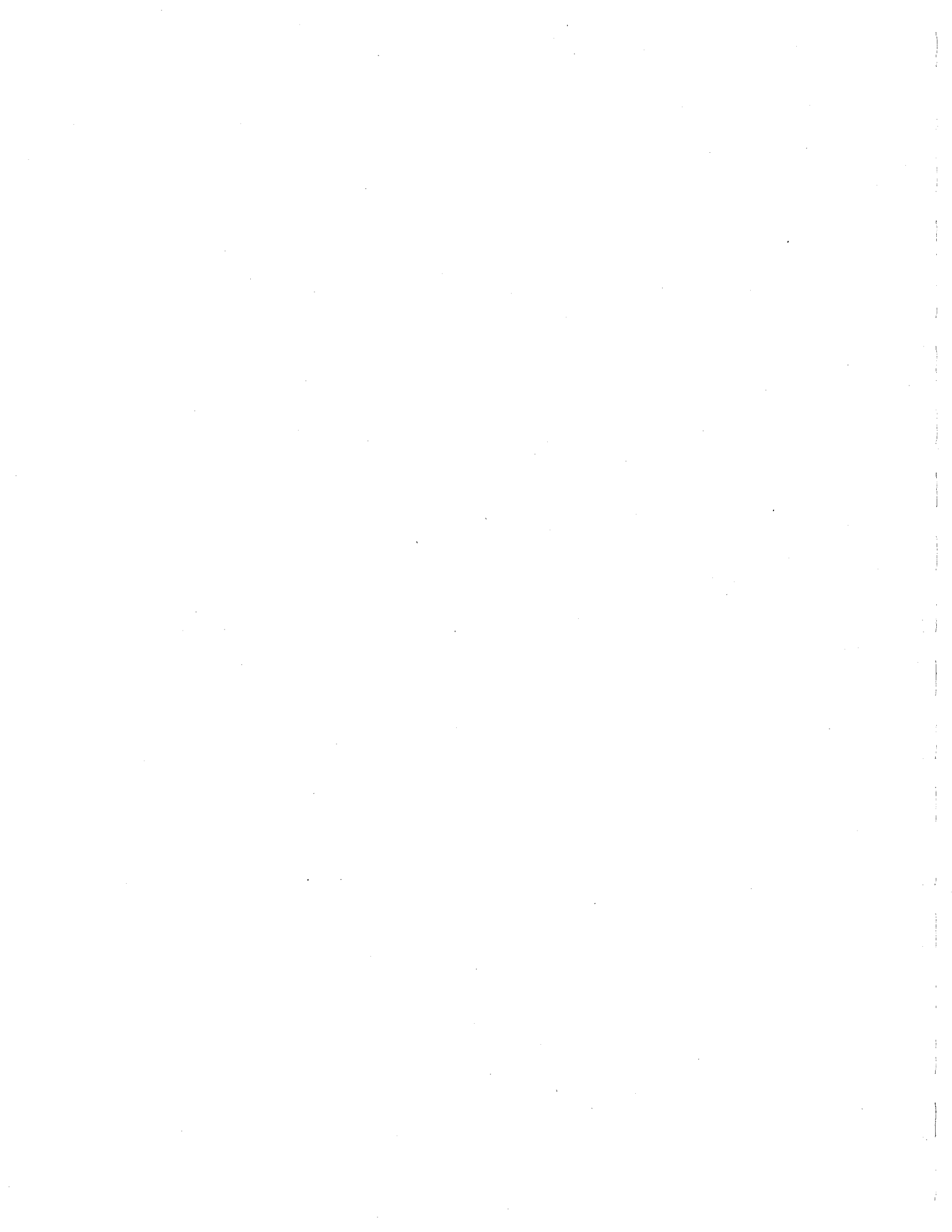


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Standard Lake Survey Report revision: 04/05/2011-RJE. Data Date: 04/16/2013 at 11:35 am .

Attachment 2: Pool 4





Minnesota Department of Natural Resources
 Fisheries Management
 STANDARD LAKE SURVEY REPORT



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

Survey Type: External Management Survey

DOW Number: 79-0005-00

Survey ID Date: 05/01/2012

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): 4281.63	Maximum Fetch (miles): N/A
DOW Lake Area (acres): 5660.00	Fetch Orientation (degrees): N/A
Littoral Area (acres): 0.00	USGS Quad Map Number: U22c
Area in MN (acres): 2612.34	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

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Surveys And Investigations

Population Assessment: 06/13/2011.

Special Assessment: 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: 05/01/2012.

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Natural Reproduction Catch Summary for SEF

Special sampling, electrofishing

Total run-time for all stations: 49999999:57:00

Total on-time for all stations: 22:36:20

First Sampling Date: 05/14/2012

Last Sampling Date: 10/18/2012

Daylight Sampling: Yes

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	1	1	32.28	32.28	32.28	0.00	0.04
BIB	Bigmouth Buffalo	All	21	21	21.17	15.20	31.30	0.00	0.93
BLC	Black Crappie	All	56	56	10.18	4.92	12.99	0.00	2.48
BLS	Blue Sucker	All	1	1	26.93	26.93	26.93	0.00	0.04
BLG	Bluegill	All	132	132	6.27	3.54	8.74	0.00	5.84
BOF	Bowfin (Dogfish)	All	49	49	22.43	14.61	29.13	0.00	2.17
BUB	Burbot	All	1	1	8.90	8.90	8.90	0.00	0.04
CCF	Channel Catfish	All	10	10	21.55	8.19	26.38	0.00	0.44
CAP	Common Carp	All	363	363	22.11	11.42	35.04	0.00	16.06
FCF	Flathead Catfish	All	44	44	13.36	7.40	33.46	0.00	1.95
FRD	Freshwater Drum	All	568	568	13.03	7.83	25.59	0.00	25.13
GIS	Gizzard Shad	All	318	318	12.68	6.73	19.57	0.00	14.07
GLR	Golden Redhorse	All	3	3	14.37	10.91	16.81	0.00	0.13
HFS	Highfin Carpsucker	All	2	2	12.32	11.42	13.23	0.00	0.09
HSF	Hybrid Sunfish	All	4	4	5.04	4.13	5.55	0.00	0.18
LMB	Largemouth Bass	All	188	188	11.92	4.53	18.82	0.00	8.32
LNG	Longnose Gar	All	9	9	25.91	20.67	29.92	0.00	0.40
MOE	Mooneye	All	7	7	11.50	6.85	14.06	0.00	0.31
NOP	Northern Pike	All	19	19	22.10	15.94	28.54	0.00	0.84
QBS	Quillback	All	59	59	17.45	6.18	20.87	0.00	2.61
RCS	River Carpsucker	All	6	6	17.70	12.24	20.63	0.00	0.27
RKB	Rock Bass	All	4	4	5.73	5.47	6.38	0.00	0.18
SAR	Sauger	All	138	138	11.15	6.73	19.76	0.00	6.10
SHR	Shorthead Redhorse	All	266	266	15.32	5.24	19.21	0.00	11.77
SNG	Shortnose Gar	All	6	6	25.36	20.83	29.13	0.00	0.27
SIL	Silver Lamprey	All	8	8	9.40	5.12	11.81	0.00	0.35
SLR	Silver Redhorse	All	83	83	19.99	9.25	23.82	0.00	3.67
SMB	Smallmouth Bass	All	189	189	11.84	4.33	20.00	0.00	8.36
SAB	Smallmouth Buffalo	All	16	16	19.98	12.80	26.10	0.00	0.71
WAE	Walleye	All	225	225	18.52	7.76	27.48	0.00	9.95
WHB	White Bass	All	518	518	13.47	6.42	16.54	0.00	22.91
WHC	White Crappie	All	7	7	10.61	2.68	14.02	0.00	0.31
WTS	White Sucker	All	2	2	16.95	15.12	18.78	0.00	0.09
YEP	Yellow Perch	All	4	4	6.27	5.00	8.46	0.00	0.18

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Length Frequency Distribution For SEF

Special sampling, electrofishing

(Field work conducted between 05/14/2012 and 10/18/2012)

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>HFS</u>	<u>HSF</u>
< 3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.50 - 3.99	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
4.00 - 4.49	-	-	-	14	-	-	-	-	-	-	-	-	-	-	1
4.50 - 4.99	-	-	1	13	-	-	-	-	-	-	-	-	-	-	-
5.00 - 5.49	-	-	-	5	-	-	-	-	-	-	-	-	-	-	2
5.50 - 5.99	-	-	-	10	-	-	-	-	-	-	-	-	-	-	1
6.00 - 6.49	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-
6.50 - 6.99	-	-	-	17	-	-	-	-	-	-	-	3	-	-	-
7.00 - 7.49	-	-	1	15	-	-	-	-	-	1	-	15	-	-	-
7.50 - 7.99	-	-	-	23	-	-	-	-	-	1	3	14	-	-	-
8.00 - 8.49	-	-	1	10	-	-	-	-	1	2	4	18	-	-	-
8.50 - 8.99	-	-	2	3	-	-	1	-	-	3	5	18	-	-	-
9.00 - 9.49	-	-	4	-	-	-	-	-	-	3	5	22	-	-	-
9.50 - 9.99	-	-	17	-	-	-	-	-	-	1	17	13	-	-	-
10.00 - 10.49	-	-	7	-	-	-	-	-	-	1	29	13	-	-	-
10.50 - 10.99	-	-	11	-	-	-	-	-	-	2	53	15	1	-	-
11.00 - 11.49	-	-	7	-	-	-	-	1	-	2	66	15	-	1	-
11.50 - 11.99	-	-	3	-	-	-	-	-	-	4	48	14	-	-	-
12.00 - 12.99	-	-	2	-	-	-	-	3	-	6	105	15	-	-	-
13.00 - 13.99	-	-	-	-	-	-	-	8	-	4	74	4	-	1	-
14.00 - 14.99	-	-	-	-	-	1	-	12	-	3	53	19	-	-	-
15.00 - 15.99	-	4	-	-	-	-	-	15	-	3	28	37	1	-	-
16.00 - 16.99	-	1	-	-	-	-	-	20	-	2	28	35	1	-	-
17.00 - 17.99	-	2	-	-	-	1	-	26	-	-	13	28	-	-	-
18.00 - 18.99	-	4	-	-	-	1	-	28	1	3	17	13	-	-	-
19.00 - 19.99	-	-	-	-	-	5	-	14	1	1	9	7	-	-	-
20.00 - 20.99	-	2	-	-	-	8	-	17	-	-	6	-	-	-	-
21.00 - 21.99	-	1	-	-	-	10	-	12	2	-	1	-	-	-	-
22.00 - 22.99	-	1	-	-	-	6	-	23	-	-	2	-	-	-	-
23.00 - 23.99	-	-	-	-	-	4	-	40	1	-	1	-	-	-	-
24.00 - 24.99	-	-	-	-	-	2	-	34	1	-	-	-	-	-	-
25.00 - 25.99	-	1	-	-	-	4	-	36	1	-	1	-	-	-	-
26.00 - 26.99	-	2	-	-	1	2	-	30	2	-	-	-	-	-	-
27.00 - 27.99	-	-	-	-	-	3	-	19	-	-	-	-	-	-	-
28.00 - 28.99	-	1	-	-	-	1	-	9	-	1	-	-	-	-	-
29.00 - 29.99	-	-	-	-	-	1	-	7	-	-	-	-	-	-	-
30.00 - 30.99	-	1	-	-	-	-	-	5	-	-	-	-	-	-	-
31.00 - 31.99	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-
32.00 - 32.99	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.00 - 33.99	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
= > 36.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	<u>AME</u>	<u>BIB</u>	<u>BLC</u>	<u>BLG</u>	<u>BLS</u>	<u>BOF</u>	<u>BUB</u>	<u>CAP</u>	<u>CCF</u>	<u>FCF</u>	<u>FRD</u>	<u>GIS</u>	<u>GLR</u>	<u>HFS</u>	<u>HSF</u>
Total	1	21	56	132	1	49	1	363	10	44	568	318	3	2	4
Min. Length	32.28	15.20	4.92	3.54	26.93	14.61	8.90	11.42	8.19	7.40	7.83	6.73	10.91	11.42	4.13
Max. Length	32.28	31.30	12.99	8.74	26.93	29.13	8.90	35.04	26.38	33.46	25.59	19.57	16.81	13.23	5.55
Mean Length	32.28	21.17	10.18	6.27	26.93	22.43	8.90	22.11	21.55	13.36	13.03	12.68	14.37	12.32	5.04
# Measured	1	21	56	132	1	49	1	363	10	44	568	318	3	2	4
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Length Frequency Distribution For SEF (Continued)

Special sampling, electrofishing

(Field work conducted between 05/14/2012 and 10/18/2012)

	<u>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</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>	<u>SNG</u>	<u>WAE</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	3	-	-	-	-	-	1	-	-	1	1	-	4	-	-
5.50 - 5.99	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-
6.00 - 6.49	-	-	-	-	1	-	1	-	-	-	-	-	1	-	-
6.50 - 6.99	2	-	1	-	1	-	-	-	3	-	-	-	5	-	-
7.00 - 7.49	3	-	1	-	-	-	-	-	7	-	-	-	9	-	-
7.50 - 7.99	6	-	-	-	-	-	-	-	6	1	-	-	9	-	1
8.00 - 8.49	14	-	-	-	-	-	-	-	10	1	1	-	13	-	1
8.50 - 8.99	20	-	-	-	-	-	-	-	2	1	-	-	10	-	-
9.00 - 9.49	9	-	-	-	-	-	-	-	6	2	2	1	7	-	1
9.50 - 9.99	3	-	-	-	-	-	-	-	11	1	1	-	7	-	-
10.00 - 10.49	5	-	-	-	-	-	-	-	14	-	1	-	6	-	-
10.50 - 10.99	5	-	-	-	-	-	-	-	10	1	-	-	5	-	-
11.00 - 11.49	4	-	-	-	-	-	-	-	10	3	1	-	11	-	-
11.50 - 11.99	6	-	-	-	-	-	-	-	12	3	1	-	6	-	-
12.00 - 12.99	21	-	2	-	1	1	-	1	19	15	-	2	16	-	5
13.00 - 13.99	28	-	2	-	1	-	-	-	8	18	-	3	22	-	4
14.00 - 14.99	25	-	1	-	2	-	-	-	11	53	-	2	10	-	6
15.00 - 15.99	16	-	-	1	5	-	-	1	3	61	-	5	19	-	12
16.00 - 16.99	9	-	-	-	4	-	-	3	1	59	-	1	12	-	35
17.00 - 17.99	4	-	-	1	18	1	-	-	2	30	-	-	8	-	48
18.00 - 18.99	2	-	-	-	8	3	-	3	2	14	-	5	3	-	41
19.00 - 19.99	-	-	-	-	12	-	-	1	1	2	-	9	2	-	20
20.00 - 20.99	-	1	-	4	6	1	-	1	-	-	-	18	1	1	8
21.00 - 21.99	-	-	-	5	-	-	-	1	-	-	-	13	-	-	8
22.00 - 22.99	-	-	-	2	-	-	-	-	-	-	-	12	-	-	9
23.00 - 23.99	-	2	-	1	-	-	-	-	-	-	-	12	-	-	8
24.00 - 24.99	-	1	-	2	-	-	-	3	-	-	-	-	-	2	9
25.00 - 25.99	-	1	-	1	-	-	-	1	-	-	-	-	-	1	3
26.00 - 26.99	-	-	-	-	-	-	-	1	-	-	-	-	-	-	3
27.00 - 27.99	-	1	-	1	-	-	-	-	-	-	-	-	-	1	3
28.00 - 28.99	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
29.00 - 29.99	-	2	-	-	-	-	-	-	-	-	-	-	-	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>LMB</u>	<u>LNG</u>	<u>MOE</u>	<u>NOP</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>	<u>SNG</u>	<u>WAE</u>
Total	188	9	7	19	59	6	4	16	138	266	8	83	189	6	225
Min. Length	4.53	20.67	6.85	15.94	6.18	12.24	5.47	12.80	6.73	5.24	5.12	9.25	4.33	20.83	27.48
Max. Length	18.82	29.92	14.06	28.54	20.87	20.63	6.38	26.10	19.76	19.21	11.81	23.82	20.00	29.13	27.48
Mean Length	11.92	25.91	11.50	22.10	17.45	17.70	5.73	19.98	11.15	15.32	9.40	19.99	11.84	25.36	18.52
# Measured	188	9	7	19	59	6	4	16	138	266	8	83	189	6	225
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

STANDARD LAKE SURVEY REPORT
EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Length Frequency Distribution For SEF (Continued)

Special sampling, electrofishing

(Field work conducted between 05/14/2012 and 10/18/2012)

	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
< 3.00	-	1	-	-
3.00 - 3.49	-	-	-	-
3.50 - 3.99	-	-	-	-
4.00 - 4.49	-	-	-	-
4.50 - 4.99	-	-	-	-
5.00 - 5.49	-	-	-	1
5.50 - 5.99	-	-	-	2
6.00 - 6.49	1	-	-	-
6.50 - 6.99	4	-	-	-
7.00 - 7.49	2	-	-	-
7.50 - 7.99	2	-	-	-
8.00 - 8.49	5	-	-	1
8.50 - 8.99	5	-	-	-
9.00 - 9.49	2	-	-	-
9.50 - 9.99	6	-	-	-
10.00 - 10.49	6	-	-	-
10.50 - 10.99	6	1	-	-
11.00 - 11.49	9	2	-	-
11.50 - 11.99	22	-	-	-
12.00 - 12.99	96	2	-	-
13.00 - 13.99	131	-	-	-
14.00 - 14.99	125	1	-	-
15.00 - 15.99	87	-	1	-
16.00 - 16.99	9	-	-	-
17.00 - 17.99	-	-	-	-
18.00 - 18.99	-	-	1	-
19.00 - 19.99	-	-	-	-
20.00 - 20.99	-	-	-	-
21.00 - 21.99	-	-	-	-
22.00 - 22.99	-	-	-	-
23.00 - 23.99	-	-	-	-
24.00 - 24.99	-	-	-	-
25.00 - 25.99	-	-	-	-
26.00 - 26.99	-	-	-	-
27.00 - 27.99	-	-	-	-
28.00 - 28.99	-	-	-	-
29.00 - 29.99	-	-	-	-
30.00 - 30.99	-	-	-	-
31.00 - 31.99	-	-	-	-
32.00 - 32.99	-	-	-	-
33.00 - 33.99	-	-	-	-
34.00 - 34.99	-	-	-	-
35.00 - 35.99	-	-	-	-
= > 36.00	-	-	-	-

	<u>WHB</u>	<u>WHC</u>	<u>WTS</u>	<u>YEP</u>
Total	518	7	2	4
Min. Length	6.42	2.68	15.12	5.00
Max. Length	16.54	14.02	18.78	8.46
Mean Length	13.47	10.61	16.95	6.27
# Measured	518	7	2	4
No Lengths for	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

STANDARD LAKE SURVEY REPORT

EXTERNAL MANAGEMENT SURVEY DATED 05/01/2012 FOR DOW NUMBER 79-0005-00

Approval Dates And Notices

Date Approved By Lake City Area Fisheries Supervisor: 04/16/2013

Date Approved By Central Region Fisheries Manager: _____



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Standard Lake Survey Report revision: 04/05/2011-RJE. Data Date: 04/16/2013 at 11:30 am .

