

LAKE MANAGEMENT STATUS REPORT

Date of Report: 01/09/2024	Fisheries Manager: Brennan Caputo	District: 1
Lake Name: Pierce Lake	County: Winnebago	Water No: 00017
Ownership (STATE, PUBC, PUBO): State		Acreage: 162.0

LM STATUS REPORTS WILL INCLUDE THE FOLLOWING SECTIONS:

1. List of the Sport Fish Regulations in Effect
2. Listing of Stocked Fish
3. Vegetation Treatments
4. Fish Surveys
5. Lake Management Plan Progress Table
6. Recommendations for Observed Problem Trends

1. SPORT FISH REGULATIONS IN EFFECT:

All Fish	2 Pole and Line Fishing Only
Large or Smallmouth Bass	1 Fish Daily Creel Limit (15" Minimum Length Limit)
Bluegill or Redear Sunfish	No Fish Daily Creel Limit (No Minimum Length Limit)
Channel Catfish	.6 Fish Daily Creel Limit (No Minimum Length Limit)
Pure Muskellunge	1 Fish Daily creel Limit (48" Minimum Length Limit)
Walleye, Sauger, or Hybrid Walleye	.6 Fish Daily Creel Limit (14" Minimum Length Limit)
White, Black, or Hybrid Crappie	.25 Fish Daily Creel Limit (No Minimum Length Limit)

2. FISH STOCKING:

2023:

09/28/2023	Muskellunge	166	12.25"	Jake Wolf Hatchery
08/08/2023	Channel Catfish	3,855	7.5"	Little Grassy Hatchery
06/14/2023	Smallmouth Bass	5,161	1.5"	Jake Wolf Hatchery
06/09/2023	Walleye	8,569	1.8"	LaSalle Fish Hatchery

2022:

09/28/2022	Muskellunge	171	12.5"	Jake Wolf Hatchery
09/02/2022	Channel Catfish	4,713	8.0"	Jake Wolf Hatchery
06/15/2022	Smallmouth Bass	5,985	1.5"	Jake Wolf Hatchery
06/02/2022	Walleye	9,180	1.6"	LaSalle Fish Hatchery

3. AQUATIC VEGETATION TREATMENTS:

A vegetation treatment was completed on 03/15/2023 and 06/07/23. A table below contains a list of chemicals that were applied.

03/15/23	Platoon	8 oz.	Willows
06/07/23	AquaNeat	7.5 gal.	Curlyleaf pondweed
06/07/23	Platoon	1 gal.	Eurasian watermilfoil

4. FISH SURVEYS:

A spring Muskie trap net survey took place on 4/17/23-4/19/2023 on Pierce Lake. The lake was sampled with 5 – 4x6 ft. 1.5in. mesh trap nets for Muskie on 4/17/2023. The nets were fished for two nights. A total of 48 Muskie were sampled during this time with water temperatures at 50-53 F.

A community assessment survey took place on 05/11/23 and consisted of 2 daytime DC-electrofishing runs for a total of 60 minutes of sampling effort. Overall, 19 species and 1088 individual fish were collected.

5. LAKE MANAGEMENT PROGRESS TABLES:

Muskellunge:

A total of 48 Muskellunge were collected ranging from 643 – 1030 mm (25.3 – 40.6 in), with 48 of those fish \geq Stock size (510 mm [20.1 in]). Average length was 834 mm (32.8 in). The PSD reached its respective target range while RSD-48 value remains at 0. Body condition (as indexed by relative weight) exceeded the 90th percentile. A high body condition indicates sufficient forage for fish growth. The CPUE was 4.8 which exceeded the goal of 1 fish per net night as set forth in the Lake Management Plan (LMP).

<u>Lake Management Plan:</u>	<u>Goal</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Net nights: (# nets)	2(5)	2(5)	NS	2(5)	2(5)	2(5)
CPUE (fish/nn)	>1.0	2.2		7.5	4.5	4.8
PSD	>90	96		59	69	92
RSD 48	>1	0		0	0	0
Wr	90-110	105		103	96	99

Spring trap net CPUE (fish/nn) of each length group of Muskellunge collected.

<u>Year</u>	<u><20.1"</u>	<u>20.1-29.9"</u>	<u>29.9-38.2"</u>	<u>38.2-42.1"</u>	<u>42.1-50"</u>	<u>>50.0"</u>	<u>Total Fish</u>
2019	0	0.1	1.3	0.5	0.3	0	22
2020	NS						
2021	0	3.1	4.0	0.3	0.1	0	75
2022	0	1.4	2.7	0.4	0	0	45
2023	0	.4	4.2	0.2	0	0	48

Largemouth Bass:

A total of 159 Largemouth bass were collected ranging from 60 – 530 mm (2.4 – 20.9 in), with 85 of those fish \geq Stock size (200 mm [7.9 in]). Average length was 209 mm (8.2 in). This survey met the minimum required number of fish \geq Stock size (n = 30) to accurately quantify population demographics as set forth in the Lake Management Plan (LMP). The PSD fell just below its respective target range while RSD-15 fell within its respective target ranges. Body condition (as indexed by relative weight) exceeded the 90th percentile. A high body condition indicates sufficient forage for fish growth. Overall, the Largemouth bass population looks to be in great shape.

Lake Management Plan:	Goal	2019	2020	2021	2022	2023
# Stock (200mm)	>100	105	56	61	36	85
PSD	40-60	82	82	59	56	36
RSD 15	20-40	20	23	25	19	24
Wr	90-110	98	100	94	110	99

Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Largemouth bass collected.

Year	<7.9"	7.9-11.8"	11.8-15"	15-20.1"	>20.1"	Total
2019	41	19	65	18	3	146
2020	39	10	33	13	0	95
2021	24	25	20	15	1	85
2022	33	16	13	6	1	69
2023	74	54	11	19	1	159

Walleye:

A total of 27 Walleye were collected ranging from 366 – 718 mm (14.4 – 28.3 in), with 27 of those fish \geq Stock size (250 mm [9.8 in]). Unfortunately, this survey did not meet the minimum required number of fish $>$ Stock size ($n = 30$) to quantify population demographics as set forth in the lake management plan (LMP). However, I believed 27 fish $>$ Stock size sufficient to continue with the analysis. Both the PSD and RSD-14 exceeded their respective target ranges. Body condition (as indexed by relative weight) exceeded the 90th percentile. A high body condition indicates sufficient forage for fish growth. Overall, the Walleye population looks to be in great shape.

Lake Management Plan:	Goal	2022
# Stock(250mm)	>30	27
PSD	30-60	89
RSD 14	30-60	100
Wr	90-110	92

Spring nocturnal DC electrofishing CPUE (fish/hr.) of each length group of Walleye collected.

Year	<9.8"	9.8-15.0"	15.0-20.1"	20.1-24.8"	24.8-29.9"	>29.9"	Total CPUE
2022	0	6	44	2	2	0	54

White Crappie:

A total of 33 White Crappie were collected ranging from 198 – 355 mm (7.8 – 14.0 in), with 36 \geq Stock size (80 mm [3.1 in]). Average length was 254 mm (10.0 in). This survey did not meet the minimum required number of fish $>$ Stock size ($n = 50$) to accurately quantify population demographics as set forth in the Lake Management Plan (LMP). However, I believed 36 fish $>$ Stock size sufficient to continue with the analysis. The PSD and PSD-P exceeded their respective target ranges. Body condition (as indexed by relative weight) fell just below the 90th percentile. A low body condition might indicate insufficient forage for fish growth. Despite White Crappie densities being low, size quality is high as shown by the PSD-P value.

Lake Management Plan: Goal		2023
#Stock (130mm)	>100	36
CPUE (fish/nn)		1.9(20)
PSD	30-60	97
PSD-P	>10	53
Wr	90-110	85

Fall trap netting CPUE (fish/nn) of each length group of White Crappie collected.

Year	<5.1"	5.1-7.9"	7.9-9.8"	9.8-11.8"	11.8-15.0"	>15.0"	Total
2023	0.0	.1	0.8	0.8	0.2	0.0	1.9

Black Crappie:

A total of 187 Black Crappie were collected ranging from 163 – 343 mm (6.4 – 13.5 in), with 187 \geq Stock size (80 mm [3.1 in]). Average length was 213 mm (8.4 in). This survey met the minimum required number of fish \geq Stock size (n = 50) to quantify population demographics as set forth in the Lake Management Plan (LMP). The PSD exceeded its respective target ranges while the PSD-P fell below its respective ranges. Body condition (as indexed by relative weight) met the 90th percentile target goal. A good body condition could indicate sufficient forage for fish growth. Despite Black Crappie densities being high, and good body condition, very few above quality sized Black Crappie were collected (as indicated by low the PSD-P value).

Black Crappie

Lake Management Plan: Goal		2023
#Stock (130mm)	>100	187
CPUE (fish/nn)		9.4(20)
PSD	30-60	83
PSD-P	>10	3
Wr	90-110	90

Fall trap netting CPUE (fish/nn) of each length group of Black Crappie collected.

Year	<5.1"	5.1-7.9"	7.9-9.8"	9.8-11.8"	11.8-15.0"	>15.0"	Total
2023	0.0	1.6	7.5	0.2	0.1	0.0	9.4

Bluegill:

A total of 389 Bluegills were collected ranging from 20 – 181 mm (0.8 – 7.1 in), with 227 \geq Stock size (80 mm [3.1 in]). Average length was 92 mm (3.6 in). This survey met the minimum required number of fish \geq Stock size (n = 50) to quantify population demographics as set forth in the Lake Management Plan (LMP). The PSD and RSD-7 fell below its target ranges. Body condition (as indexed by relative weight) exceeded the 90th percentile. A high body condition indicates sufficient forage for fish growth. Despite Bluegill densities being high, and good Bluegill body condition, very few larger Bluegill were collected (as indicated by low the PSD-P value). This could be due to the high fishing pressure put on the lake. It's also possible larger fish are present but were difficult to collect due to the large amount of vegetation in the water during the survey.

Lake Management Plan:	Goal	2019	2020	2021	2022	2023
#Stock(80mm)	>100	77	115	72	142	277
PSD	20-40	42	19	25	7	6
PSD-P	05-20	1	3	0	0	0
Wr	90-110	96	102	100	119	100

Fall diurnal DC electrofishing CPUE (fish/hr.) of each length group of Bluegill collected.

Year	<3.1"	3.1-5.9"	5.9-7.9"	7.9-9.8"	Total
2019	64	45	31	1	141
2020	62	93	19	3	177
2021	22	54	18	0	94
2022	26	132	10	0	168
2023	112	261	16	0	389

Gizzard Shad:

Gizzard shad are the primary food for all the predators in Pierce Lake. The 2023 sample showed good YOY production.

Lake Management Plan:	Goal:	2019	2020	2021	2022	2023
YOY Present		Yes	Yes	Yes	Yes	Yes

6. RECOMMENDATIONS FOR OBSERVED PROBLEM TRENDS:

1. Work with constituents to build Habitat structures for the lake.
2. Treat the Lilly pads and Lotus in the upper end of the lake.
3. Treat Olson Lake early to produce a better bloom on Pierce Lake.
4. Continue fish population surveys on a routine basis.